## DANGEROUS GOODS PANEL (DGP) WORKING GROUP MEETING (DGP-WG/19)

### Montréal, 1 to 5 April 2019

- Agenda Item 1: Harmonizing ICAO dangerous goods provisions with UN Recommendations on the Transport of Dangerous Goods
  - 1.2: Develop proposals, if necessary, for amendments to the *Technical Instructions for* the Safe Transport of Dangerous Goods by Air (Doc 9284) for incorporation in the 2021-2022 Edition

# DRAFT AMENDMENTS TO THE TECHNICAL INSTRUCTIONS TO ALIGN WITH THE UN RECOMMENDATIONS — PART 3

(Presented by the Secretary)

### **SUMMARY**

This working paper contains draft amendments to Part 3 of 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).

**Action by the DGP-WG:** The DGP-WG is invited to agree to the draft amendments in this working paper.

## Part 3

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

## Chapter 2

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

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### **Table 3-1. Dangerous Goods List**

									Passenger airci		Cargo airo	craft only
		Class							<u> </u>	Max. net	- cargo and	Max. net
		or	Sub-		State	Special	UN			quantity		quantity
	UN	divi-	sidiary		varia-	provi-	packing	Excepted	Packing	per	Packing	per
Name	No.	sion	hazard	Labels	tions	sions	group	quantity	instruction	package	instruction	package
1	2	3	4		6	7	8	9	10	11	12	13
	UN M	odel Re	egulatior	is, Chapi	ter 3.2, d	langerous	s goods lis	st (see ST/	SG/AC.10/4	46/Add.1):	:	
						•	,					
Detonators,	<u>0511</u>	<u>1.1B</u>		Explos				<u>E0</u>	<u>FORBI</u>	<u>DDEN</u>	<u>FORBI</u>	DDEN
electronic				<u>ive</u>								
programmable for blasting†												
<u>Diastiligi</u>												
Detonators,	0540	4.45		Explos				F0	FORBI	DDEN	404	75 1
electronic	<u>0512</u>	<u>1.4B</u>		ive 1.4				<u>E0</u>	<u>I ORDI</u>	DDLIN	<u>131</u>	<u>75 kg</u>
programmable for				<u> </u>								
blasting†												
UN	I Mode	l Regul	ations. C	Chapter 3	3.2. dang	erous god	ods list. S	P347 (see	ST/SG/AC.	10/46/Add	1.1):	
	. 1,1000	1110801			,	510 65 800	3 43 1150, 5	20.7 (500	21,20,110.	10/ 10/1100	,.	
Detonators,	0513	<u>1.4S</u>		Explos		A165		E0	131	25 kg	131	100 kg
electronic	0010	1.40		ive 1.4				<u> </u>	101	<u>20 kg</u>	101	<u>100 kg</u>
programmable for												
blasting†												

									Passenger airc	•	Cargo aire	rraft only
Name	UN No.	Class or divi- sion	Sub- sidiary hazard	Labels	State varia- tions	Special provi- sions	UN packing group	Excepted quantity	Packing instruction	Max. net quantity per package	Packing instruction	Max. ne quantity per package
1	2	3	4	Labels	6	7	8 8	9	10	11	12	13
	1	1								•		
Secretariat Note.—					_	~ .					ject to the	_
backaging testing												
consider whether the						_	•	•			_	_
the appropriate aut			•	_	<u>ermitted</u>	on both	<mark>passenge1</mark>	and cargo	aircraft. I	permitted	l, the quant	ity limit
n columns 11 and	13 will	need to	o be esta	blished.								
<b>.</b>	•		1.0	-			****					
Background inform	nation c	n the n	eed for t	these pro	visions	is given in	n UN/SCI	ETDG/51/I	NF.43.			
LIN	I Mode	1 Dagul	otions (	Thorston 3	2 2 dono	*******************	ode liet C	D205 (can	ST/SG/AC	10/46/44	J 1).	
UN	Wiode	i Regui	ations, C	mapter 3	5.2, dang	gerous goo	ous list, S	P393 (see	31/3G/AC	.10/46/Au	J.1):	
Medical waste,	3549	6.2		<u>Infecti</u>		<u>A218</u>		<u>E0</u>	[682]	[?]	[682]	[?]
Category A, affecting humans,				<u>ous</u>								
solid												
Medical waste, Category A, affecting animals only, solid	<u>3549</u>	<u>6.2</u>		Infecti ous		<u>A218</u>		<u>E0</u>	[682]	[?]	<u>[682]</u>	[?]
<u> </u>												
UN	Mode	l Regul	ations, C	Chapter 3	3.2, dang	gerous go	ods list, S	P393 (see	ST/SG/AC	.10/46/Ad	d.1):	
				-		<u> </u>		`				
Nitrocellulose, dry or	0340	1.1D		1		A216			FORBI	DDEN	FORBI	DDEN
wetted with less than	0040	1.15				71210			TONDI	DDLI	TONDI	BBLIV
25% water (or alcohol), by mass												
	ı	ı	ı	l	I	l	l	I.		l	l	I
UN	Mode!	l Regul	ations, C	Chapter 3	3.2, dang	gerous go	ods list, S	P393 (see	ST/SG/AC	.10/46/Ad	d.1):	
		-				-						
Nitrocellulose,	0341	1.1D		1	I	A216	Ī		FORBI	DDEN	FORBI	DDEN
Nitrocallillosa	0341	1.10				<u> 72 10</u>			I OINDI	DDLIN	LOVE	DDLIN

									Passenger airci	raft	Cargo air	
Name	UN No.	Class or divi- sion	Sub- sidiary hazard	Labels	State varia- tions	Special provi- sions	UN packing group	Excepted quantity	Packing instruction	Max. net quantity per package	Packing instruction	Max. ne quantity per package
1	2	3	4		6	7	8	9	10	11	12	13
IIN	J Mode	l Regul	ations C	hanter 3	3.2 dano	gerous god	nds list S	P393 (see	ST/SG/AC.	10/46/Add	1 1)·	
	· WIOUC	Regui	ations, C	mapter :	7.2, dang	crous go	Jus 11st, D.	1 373 (800	31/30/11C.	10/40/1100	<i>4.1)</i> .	
Nitrocellulose, plasticized with not less than 18% plasticizing substance, by mass	0343	1.3C				<u>A216</u>			FORBI	DDEN	FORBI	DDEN
		l	l		l	1	l					ı
UN	N Mode	l Regul	ations, C	Chapter 3	3.2, dang	gerous go	ods list, $\overline{S}$	P393 (see	ST/SG/AC.	10/46/Add	d.1):	
Nitrocellulose, wetted with not less than 25% alcohol, by mass	0342	1.3C				<u>A216</u>			FORBI	DDEN	FORBI	DDEN
	ı	I	1			ı	I					
UN	N Mode	l Regul	ations, C	Chapter 3	3.2, dang	gerous go	ods list, S	P386 (see	ST/SG/AC.	10/46/Add	d.1):	
				1		<u> </u>		`				
Dipropylamine	2383	3	8	Liquid flamm able & Corros		A209	II	E2	352 Y340	1 L 0.5 L	363	5 L
				ive								
						1						
UN	N Mode	l Regul	ations, C	Chapter 3	3.2, dang	gerous go	ods list, S	P386 (see	ST/SG/AC.	10/46/Add	d.1):	
								· · ·				
2- Dimethylaminoethyl methacrylate <u>.</u> <u>stabilized</u>	2522	6.1		Toxic		<u>A209</u>	II	E4	654 Y641	5 L 1 L	662	60 L
	<u> </u>					1						<u> </u>
IIN	I Mode	l Regul	ations C	Chapter 3	3.2. dano	erous go	ods list S	P394 (see	ST/SG/AC.	10/46/Add	1.1):	
	, 1,1000	. regui		mapion 2	, dang	51045 600		2371 (500	21,53,710.	10/10/1100	j.	

									Passenger airc		Cargo aire	craft only
Name 1	UN No. 2	Class or divi- sion 3	Sub- sidiary hazard 4	Labels	State varia- tions 6	Special provi- sions 7	UN packing group 8	Excepted quantity	Packing instruction	Max. net quantity per package	Packing instruction	Max. ne quantity per package
·	_			l								
UN	Mode	l Regul	ations, C	Chapter 3	3.2, dang	gerous goo	ods list, S	P394 (see	ST/SG/AC	.10/46/Ad	d.1):	
Nitra - Hada	0550		Т	0-15-1	DE 0	1 A57			450	A lin	450	45 1
Nitrocellulose with alcohol, not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry mass	2556	4.1		Solid flamm able	BE 3	A57 <u>A217</u>	l II	E0	452	1 kg	453	15 kg
			•	•	•	•					•	•
UN	Mode	l Regul	ations, C	Chapter 3	3.2, dang	erous goo	ods list, S	P394 (see	ST/SG/AC	.10/46/Ad	d.1):	
	0557		Г	0 5 5	DE 0				450	4.1	450	451
Nitrocellulose, with not more than 12.6% nitrogen, by dry mass, mixture without plasticizer, without pigment	2557	4.1		Solid flamm able	BE 3	A57 A86 <u>A217</u>	l II	E0	452	1 kg	453	15 kg
		I	I.	I.	I	l .	I				L	
UN	Mode	l Regul	ations, C	Chapter 3	3.2, dang	gerous goo	ods list, S	P394 (see	ST/SG/AC	.10/46/Ad	d.1):	
			1		55.0						1	
Nitrocellulose, with not more than 12.6% nitrogen, by dry mass, mixture without plasticizer, with pigment	2557	4.1		Solid flamm able	BE 3	A57 A86 <u>A217</u>	l II	E0	452	1 kg	453	15 kg
		l .	ı	ı	ı	ı	ı	1			ı	ı
UN	Mode	l Regul	ations, C	Chapter 3	3.2, dang	gerous goo	ods list, S	P394 (see	ST/SG/AC	.10/46/Ad	d.1):	
Nitrocellulose, with not more than 12.6% nitrogen, by dry mass, mixture with plasticizer, without	2557	4.1		Solid flamm able	BE 3	A57 A86 <u>A217</u>	II	E0	452	1 kg	453	15 kg

Name
UN Model Regulations, Chapter 3.2, dangerous goods list, SP394 (see ST/SG/AC.10/46/Add.1):    Nitrocellulose, with not more than 12.6% nitrogen, by dry mass, mixture with plasticizer, with plasticizer, with plasticizer, with pigment   UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):    Environmentally   3077   9   Miscell   DE 5   A97   III   E1   956   400 kg   956   400 kg   956   4158   4179   4158   4179   4197   4215   4158   4179   4197   4215   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179   4158   4179
Nitrocellulose, with not more than 12.6% inflamm able   Solid   BE 3   A57   II   E0   452   1 kg   453
Nitrocellulose, with not more than 12.6% not than 12.6% not more
DE 5   A97   III   E1   956   400 kg   956   Substance, solid, n.o.s.*   UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):    UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):   Environmentally hazardous   Substance, solid, n.o.s.*   UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):   UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):   Environmentally   3082   9   Miscell   DE 5   A97   III   E1   964   450 L   964   A158   A15
DE 5   A97   III   E1   956   400 kg   956   Substance, solid, n.o.s.*   UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):    UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):   Environmentally hazardous   Substance, solid, n.o.s.*   UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):   UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):   Environmentally   3082   9   Miscell   DE 5   A97   III   E1   964   450 L   964   A158   A15
Environmentally hazardous substance, solid, n.o.s.*   Miscell   DE 5   A97   III   E1   956   400 kg   956   30 kg G   956   A158   A179   A197   A215   A215   A215   A215   A179   A215   A179   A215   A
Environmentally   3077   9   Miscell   DE 5   A97   III   E1   956   400 kg   956   30 kg G   956   A158   A158   A179   A197   A215
A   A   A   A   A   A   A   A   A   A
A   A   A   A   A   A   A   A   A   A
Also
UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):    Environmentally   3082   9   Miscell   DE 5   A97   III   E1   964   450 L   964   hazardous   400 L   964   30 kg G   964   100 C   100
UN Model Regulations, Chapter 3.2, dangerous goods list, SP274 (see ST/SG/AC.10/46/Add.1):  Environmentally hazardous    A215
Environmentally 3082 9 Miscell DE 5 A97 III E1 964 450 L 964 hazardous US 4 A158 Y964 30 kg G
Environmentally 3082 9 Miscell DE 5 A97 III E1 964 450 L 964 hazardous US 4 A158 Y964 30 kg G
Environmentally hazardous         3082         9         Miscell DE 5 A97 III         E1 964 450 L 964 Y964 30 kg G         964 30 kg G
hazardous aneou US 4 A158 Y964 30 kg G
hazardous aneou US 4 A158 Y964 30 kg G
n.o.s.*
UN Model Regulations, Chapter 3.2, dangerous goods list (see ST/SG/AC.10/46/Add.1):
Biomedical waste, 3291 6.2   Infecti   A117   # E0 622   No limit 622   1
n.o.s.
Clinical         waste,         3291         6.2         Infecti         A117         H         E0         622         No limit         622         I
unspecified, n.o.s. Ous
UN Model Regulations, Chapter 3.2, dangerous goods list (see ST/SG/AC.10/46/Add.1):
Modical waste 2001 6.2   Infecti   A447   II   FO   600   No limit   600   1
Medical         waste,         3291         6.2         Infecti         A117         #         E0         622         No limit         622         I           n.o.s.         ous         ous         I

									Passenger airc	raft	Cargo air	
Name	UN No.	Class or divi- sion	Sub- sidiary hazard	Labels	State varia- tions	Special provi- sions	UN packing group	Excepted quantity	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 M	odel Ro	egulation	ns, Chap	ter 3.2, c	langerous	goods lis	st (see ST/s	SG/AC.10/-	46/Add.1)	:	
Regulated medical waste, n.o.s.	3291	6.2		Infecti ous		A117	#	E0	622	No limit	622	No limit
	UN M	odel R	egulation	ns, Chap	ter 3.2, o	langerous	goods lis	st (see ST/	SG/AC.10/-	46/Add.1)	:	
Dangerous goods in articles	3363	9		Miscell aneou <u>s</u>		<u>A48</u> <u>A107</u>		<u>E0</u>	see	<u>962</u>	see	<u>962</u>
Desensitized explosive, solid, n.o.s.*	3380	l Regul	ations, C	Chapter 3	BE 3	A133 A217	ods list, S	P394 (see	ST/SG/AC	.10/46/Ad	d.1):	DDEN
UN	l Mode	l Regul	ations, C	Chapter 3	3.2, dang	gerous goo	ods list, S	P356 (see	ST/SG/AC	.10/46/Ad	d.1):	
Engine, internal combustion, flammable gas powered	3529	2.1		Gas flamm able		A70 A87 <u>A176</u> A208		E0	FORBI	DDEN	220	No limit
UN	N Mode	l Regul	ations, C	Chapter 3	3.2, dang	gerous goo	ods list, S	P356 (see	ST/SG/AC	.10/46/Ad	d.1):	
Machinery, internal combustion, flammable gas powered	3529	2.1		Gas flamm able		A70 A87 <u>A176</u> A208		EO	FORBI	DDEN	220	No limit

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### Chapter 3

### SPECIAL PROVISIONS

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Table 3-2. Special provisions

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A78 (≈172) Where a radioactive material has a subsidiary hazard(s):

- a) The substance must be allocated to Packing Group I, II or III, if appropriate, by application of the packing group criteria provided in Part 2 corresponding to the nature of the predominant subsidiary hazard.
- b) Packages must be labelled with subsidiary hazard labels corresponding to each subsidiary hazard exhibited by the material in accordance with the relevant provisions of 5;3.2; corresponding placards must be affixed to cargo transport units in accordance with the relevant provisions of 5;3.6.
- c) For the purposes of documentation and package marking, the proper shipping name must be supplemented with the name of the constituents which most predominantly contribute to this subsidiary hazard(s) and which must be enclosed in parenthesis. However, where the constituent is listed by name in Table 3-1 and:
  - i) "forbidden" is shown in columns 10 and 11, the dangerous goods transport document must indicate Cargo Aircraft Only and the package must bear cargo aircraft only labels, except that the substance may be shipped on a passenger aircraft with the prior approval of the appropriate authority of the State of Origin and the State of the Operator under the conditions established by those authorities. A copy of the document of approval, showing the quantity limitations and the packaging requirements, must accompany the consignment; and
  - ii) "forbidden" is shown in columns 12 and 13, the substance is forbidden for transport by air except that the substance may be shipped on a cargo aircraft with the prior approval of the appropriate authority of the State of Origin and the State of the Operator under the conditions established by those authorities. A copy of the document of approval, showing the quantity limitations and the packaging requirements, must accompany the consignment.

Radioactive material with a subsidiary hazard of Division 4.2 in Packing Group I must be transported in Type B packages. These may be transported on passenger or cargo aircraft.

UN Model Regulations, Chapter 3.3, SP 172 (d) (see ST/SG/AC.10/46/Add.1)

d) The dangerous goods transport document must indicate the <u>subsidiary</u> class or division <u>of the subsidiary hazard</u> and, where assigned, the packing group as required by 5;4.1.4.1 d) and e).

For packing, see also 4;9.1.5.

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UN Model Regulations, Chapter 3.3, SP 301 (see ST/SG/AC.10/46/Add.1)

A107 (≈301) This entry only applies to <u>articles such as</u> machinery <u>or apparatus or devices</u> containing dangerous goods as a residue or as an integral element of the <u>machinery or apparatus articles</u>. It must not be used for <u>machinery or apparatus articles</u> for which a proper shipping name already exists in Table 3-1.

### TIs UN

Where the quantity of dangerous goods contained as an integral element in machinery or apparatus articles exceeds the limits permitted by Packing Instruction 962, and the dangerous goods meet the provisions of Special Provision 301 of the UN Model Regulations, the machinery or apparatus articles may be transported 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.

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UN Model Regulations, Chapter 3.3, SP 327 (see ST/SG/AC.10/46/Add.1)

Secretariat Note.— Waste gas cartridges have been added to SP327 in the

Waste gas cartridges have been added to SP327 in the Model Regulations which includes provisions for transport of waste aerosols. It is proposed to add "waste gas cartridges" to A145 as shown below:

A145 Waste aerosols and waste gas cartridges are forbidden from air transport.

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UN Model Regulations, Chapter 3.3, SP 376 (see ST/SG/AC.10/46/Add.1) and DGP-WG/18 (see paragraph 3.3.6.3 of the report)

TIs UN

Secretariat Note.—

A proposal to amend Special Provision A154 in the 2019-2020 Edition of the Technical Instructions by way of an addendum to incorporate the amendments being proposed to the UN Model Regulations, which had been discussed at the 53rd session of the UN Sub-Committee, was discussed at DGP-WG/18. The DGP-WG/18 proposal included text referring to batteries identified as damaged or defective that were liable to rapidly disassemble, dangerously react, produce a flame etc., the working group considered whether including this text was necessary since all damaged or defective batteries were forbidden for transport by air. DGP-WG/18 also questioned, after noting that A154 and SP376 had never been aligned, whether this was intentional. The working group decided to wait for the amendments to be finalized at the Sub-committee's 54th session and to incorporate them through the panel's regular UN harmonization process. The Secretariat agreed to research the history of the provision to determine if the lack of harmonization was intentional and to provide background information to the DGP. Accordingly, the Secretariat determined that A154 was added to the 2006-2007 Edition of the Technical Instructions by way of an Addendum proposed at DGP-WG/06 (see paragraph 4.16 of the DGP-WG/06 report). It had been developed in response to incidents involving defective lithium batteries occurring at the time, which had led manufacturers to recall them. DGP-WG/06 agreed that they should be forbidden for transport by air and the prohibition was introduced through Special Provision A154 via Addendum/Corrigendum to the 2007-2008 Edition of the Instructions. A154 has remained unchained since then. SP376 was added to the 18th revised edition (2013) of the UN Model Regulations from an amendment developed by the Sub-Committee and adopted by the Committee in 2012 (ST/SG/AC.10/40/Add.1, DG committee in 2012). No record of a discussion by the DGP on aligning the two provisions was found. It is therefore assumed that alignment was not considered necessary since the intent of the two provisions was different, i.e. A154 is to forbid transport of damaged or defective batteries and SP376 is to set out how to transport them.

The Secretariat recommends aligning A154 with the text in SP376 that categorizes what is considered damaged and defective, as shown below, since it provides better clarity. The Secretariat does not see it necessary to include the text from SP376 referring to damaged or defective cells or batteries liable to rapidly disassemble, dangerously react etc. These are referred to in the UN Model Regulations because more stringent packing requirements apply. Since all damaged or defective batteries are forbidden for transport by air, the text is unnecessary in A154. Including it in the Supplement had been raised at DGP-WG/18, but it is suggested cells or batteries liable to dangerously react, produce a flame etc. would be forbidden for transport by air under any circumstance in accordance with 1;2.1.

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4 A154

Lithium batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons or cells or batteries that cannot be diagnosed as damaged or defective prior to transport).

Lithium ion cells or batteries and lithium metal cells or batteries identified as being damaged or defective such that they do not conform to the type tested according to the applicable provisions of the *Manual of Tests and Criteria* are forbidden for transport. For the purposes of this special provision, these may include, but are not limited to:

- a) cells or batteries identified as being defective for safety reasons;
- b) cells or batteries that have leaked or vented;
- c) cells or batteries that cannot be diagnosed prior to transport; or
- d) cells or batteries that have sustained physical or mechanical damage.

In assessing a cell or battery as damaged or defective, an assessment or evaluation must be performed based on safety criteria from the cell, battery or product manufacturer or by a technical expert with knowledge of the cell's or battery's safety features. An assessment or evaluation may include, but is not limited to, the following criteria:

- a) acute hazard, such as gas, fire, or electrolyte leaking;
- b) the use or misuse of the cell or battery;
- c) signs of physical damage, such as deformation to cell or battery casing, or colours on the casing;
- d) external and internal short circuit protection, such as voltage or isolation measures;
- e) the condition of the cell or battery safety features; or
- f) damage to any internal safety components, such as the battery management system.

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UN Model Regulations, Chapter 3.3, SP 356 (d) (see ST/SG/AC.10/46/Add.1)

A176 (356) Metal hydride storage systems installed in vehicles, vessels, <u>machinery</u>, <u>engines</u> or aircraft or in completed components or intended to be installed in vehicles, vessels, <u>machinery</u>, <u>engines</u> or aircraft must be approved by the appropriate national authority before acceptance for transport. The dangerous goods transport document must include an indication that the package was approved by the appropriate national authority or a copy of the appropriate national authority approval must accompany each consignment.

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UN Model Regulations, Chapter 3.3, SP 390 (see ST/SG/AC.10/46/Add.1)

Secretariat Note.— SP 390 was added to the UN Model Regulations to align with existing A181. There are some minor differences:

The redlined text in the first para of A181 was added for sake of harmonization with SP390.

The following differences remain:

SP 390 does not include sub-paragraph a) of A181.

There are minor editorial differences in the second sentence of para b) of A181 and para (a) of SP 390 whereby the references to lithium metal batteries and to lithium ion batteries are in the reverse order.

There are editorial differences between para c) of A181 and para (b) of SP 390, i.e. "the transport document shall indicate" and "the transport document shall indicate both" in SP 390 versus "the dangerous goods transport document must include the wording" and "the dangerous goods transport document must include the wording" in A181.

A181 (~390) When a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment, the following requirements apply for the purposes of package marking and documentation:

- a) the shipper must ensure that all applicable parts of both packing instructions are met. The total mass of lithium batteries contained in any package must not exceed the limits for passenger aircraft or cargo aircraft, as applicable;
- b) the package must be marked UN 3091 Lithium metal batteries packed with equipment, or UN 3481 Lithium ion batteries packed with equipment, as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, the package must be marked as required for both battery types. However, button cell batteries installed in equipment (including circuit boards) need not be considered;
- c) the dangerous goods transport document must include the wording "UN 3091 Lithium metal batteries packed with equipment" or "UN 3481 Lithium ion batteries packed with equipment", as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, then the dangerous goods transport document must include the wording "UN 3091 Lithium metal batteries packed with equipment" and "UN 3481 Lithium ion batteries packed with equipment".

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UN Model Regulations, Chapter 3.3, SP 360 (see ST/SG/AC.10/46/Add.1)

A185 (360) Vehicles only powered by lithium metal batteries or lithium ion batteries must be consigned under assigned to the entry UN 3171 Battery-powered vehicle.

<u>Lithium batteries installed in cargo transport units, designed only to provide power external to the transport unit must be assigned to entry UN 3536 Lithium batteries installed in cargo transport unit.</u>

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A214 (388) UN No. 3166 entries apply to vehicles powered by flammable liquid or flammable gas internal combustion engines or fuel cells.

Vehicles powered by a fuel cell engine must be assigned to UN 3166 **Vehicle**, **fuel cell**, **flammable gas powered** or UN 3166 **Vehicle**, **fuel cell**, **flammable liquid powered**, as appropriate. These entries include hybrid electric vehicles powered by both a fuel cell and an internal combustion engine with wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed.

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Other vehicles which contain an internal combustion engine must be assigned to UN 3166 **Vehicle**, **flammable gas powered** or UN 3166 **Vehicle**, **flammable liquid powered**, as appropriate. These entries include hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed.

If a vehicle is powered by a flammable liquid and a flammable gas internal combustion engine, it must be assigned to UN 3166 **Vehicle**, **flammable gas powered**.

Entry UN 3171 only applies to vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and equipment powered by wet batteries or sodium batteries transported with these batteries installed.

For the purpose of this special provision, vehicles are self-propelled apparatus designed to carry one or more persons or goods. Examples of such vehicles are cars, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles, trucks, locomotives, bicycles (pedal cycles with a motor) and other vehicles of this type (e.g. self-balancing vehicles or vehicles not equipped with at least one seating position), wheelchairs, lawn tractors, self-propelled farming and construction equipment, boats and aircraft. This includes vehicles transported in a packaging. In this case some parts of the vehicle may be detached from its frame to fit into the packaging.

UN Model Regulations, Chapter 3.3, SP 388 (see ST/SG/AC.10/46/Add.1)

Examples of equipment are lawnmowers, cleaning machines or model boats and model aircraft. Equipment powered by lithium metal batteries or lithium ion batteries must be assigned to UN 3091 Lithium metal batteries contained in equipment or UN 3091 Lithium metal batteries packed with equipment or UN 3481 Lithium ion batteries contained in equipment or UN 3481 Lithium ion batteries packed with equipment, as appropriate. Lithium ion batteries or lithium metal batteries installed in a cargo transport unit and designed only to provide power external to the cargo transport unit must be assigned to the entry UN 3536 Lithium batteries installed in cargo transport unit lithium ion batteries or lithium metal batteries.

UN Model Regulations, Chapter 3.3, SP 274 (see ST/SG/AC.10/46/Add.1)

+ A215 (≈274) For UN 3077 and UN 3082 only, the technical name may be a name shown in bold characters in column 1 of Table 3-1, provided that this name does not include "n.o.s." or an "\*". The name which most appropriately describes the substance or mixture must be used, e.g.:

UN 3082, Environmentally hazardous substance, liquid, n.o.s.\* (Paint)
UN 3082, Environmentally hazardous substance, liquid, n.o.s. (Perfumery products)

UN Model Regulations, Chapter 3.3, SP 393 (see ST/SG/AC.10/46/Add.1)

+ A216 (393) The nitrocellulose must meet the criteria of the Bergmann-Junk test or methyl violet paper test in the Manual of Tests and Criteria Appendix 10. Tests of type 3 (c) need not be applied.

UN Model Regulations, Chapter 3.3, SP 394 (see ST/SG/AC.10/46/Add.1)

<u>+ A217 (394)</u> The nitrocellulose must meet the criteria of the Bergmann-Junk test or methyl violet paper test in the Manual of Tests and Criteria Appendix 10.

UN Model Regulations, Chapter 3.3, SP 395 (see ST/SG/AC.10/46/Add.1)

± A218 (395) This entry must only be used for solid medical waste of Category A transported for disposal.