



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)**

**TWENTY-NINTH MEETING**

**Montréal, 13 to 17 November 2023**

**Agenda Item 2: Managing air-specific safety risks and identifying anomalies (Ref: REC A DGS 2025)**

**2.2: 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 2025-2026 Edition**

**PROPOSED DELETION OF SPECIAL PROVISION A164**

(Presented by D. Brennan)

**SUMMARY**

This working paper proposes that Special Provision A164 be deleted from the entries for batteries, battery powered equipment and battery powered vehicles and that A164 in Table 3-3 be changed to “Not used”.

**Action by the DGP:** The DGP is invited to:

- a) remove the assignment of Special Provision A164 from entries in Table 3-1 and to replace the current wording of Special Provision A164 with “Not used”; and
- b) add a requirement to Packing Instruction 952 for equipment and vehicles to be equipped with an effective means of preventing accidental activation to remove a gap that the proposed deletion of Special Provision A164 from UN 3171 — **Battery powered equipment** and **Battery powered vehicle** would introduce;

as shown in the appendix to this working paper.

**1. INTRODUCTION**

1.1 Special Provision A164 was adopted into the 2009-2010 Edition of the Technical Instructions based on a proposal submitted to DGP-WG/07. This special provision requires that batteries, battery powered equipment and battery powered vehicles must be prepared for transport such that the

battery is protected against short circuit; equipment and vehicles must be prevented from unintentional activation.

1.2 Currently Special Provision A164 is assigned to UN 2794, 2795, 2800, 3090, 3091, 3171, 3480 and 3481. It is proposed in DGP/29-WP/13 to extend the assignment of A164 to the new entries for sodium ion batteries, UN numbers 3551 and 3552 and the new entries for vehicles UN 3556, 3557 and UN 3558.

1.3 It is questioned if there is a need for this special provision being assigned to entries that, except for UN 2800, **Batteries, wet, non-spillable**, must always be shipped as dangerous goods and to which a packing instruction is assigned. A packing instruction that specifies detailed packing requirements, including the requirement that batteries must be protected against short circuit and equipment and vehicles with installed batteries must be prevented from unintentional activation.

1.4 For example, Packing Instruction 870 for UN 2794, **Batteries, wet, filled with acid** and UN 2795, **Batteries, wet, filled with alkali** requires that “The batteries must be packed so that the fill openings and vents, if any, are upward; they must be incapable of short-circuiting and be securely cushioned in the packagings.”.

1.5 Similar wording exists in the packing instructions for lithium batteries (Packing Instruction 965, 968), and lithium ion batteries packed with equipment (Packing Instruction 966, 969). The packing instructions for lithium batteries contained in equipment (Packing Instruction 967 and 970) require that the equipment be prevented from unintentional activation.

1.6 For UN 2800, **Batteries, wet, non-spillable**, not only is A164 assigned requiring that the battery be protected against short circuit, but the entry also has Special Provision A67 assigned, which sets out the conditions under which the battery may be determined to be “not restricted”, but A67 contains the same conditions as A164.

1.7 There is though, a gap for UN 3171, **Battery powered equipment** and **Battery powered vehicle** in Packing Instruction 952, in that there is nothing in the packing instruction that requires that the equipment and vehicles must be prevented from unintentional activation. To address this gap, it is proposed to make a revision to Packing Instruction 952 to include this requirement.

1.8 With this small revision, it is believed that Special Provision A164 is redundant and reference to A164 can be deleted from the entries identified and A164 be changed to be “Not used.

2. **ACTION BY THE DGP**

2.1 The DGP is invited to:

- a) remove the assignment of Special Provision A164 from entries in Table 3-1 and to replace the current wording of Special Provision A164 with “Not used”; and
- b) add a requirement to Packing Instruction 952 for equipment and vehicles to be equipped with an effective means of preventing accidental activation to address a gap that the proposed removal of Special Provision A164 from UN 3171 — **Battery powered equipment** and **Battery powered vehicle** would introduce;

as shown in the appendix to this working paper.

-----



APPENDIX

PROPOSED AMENDMENT TO PART 3 OF THE TECHNICAL INSTRUCTIONS

Part 3

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

...

Chapter 2

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

...

Table 3-1. 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
<b>Batteries, wet, filled with acid</b> , electric storage †	2794	8		Corrosive		A51 A164 A183		E0	870	30 kg	870	400 kg 
<b>Batteries, wet, filled with alkali</b> , electric storage †	2795	8		Corrosive		A51 A164 A183		E0	870	30 kg	870	400 kg 
<b>Batteries, wet, non-spillable</b> , electric storage	2800	8		Corrosive		A48 A67 A164 A183		E0	872	No limit	872	No limit 
<b>Battery powered equipment</b>	3171	9		Miscellaneous		A67 A87 A94 A154 A164 A182 A214		E0	952	No limit	952	No limit 

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
<b>Battery powered vehicle</b>	3171	9		Miscellaneous		A67 A87 A94 A154 A164 A214		E0	952	No limit	952	No limit
<b>Lithium ion batteries (including lithium ion polymer batteries)</b>	3480	9		Miscellaneous — Lithium batteries	US 3	A88 A99 A154 A164 A183 A201 A213		E0	FORBIDDEN		See 965	
<b>Lithium ion batteries contained in equipment (including lithium ion polymer batteries)</b>	3481	9		Miscellaneous — Lithium batteries	US 3	A48 A88 A99 A154 A164 A181 A185 A213 A220		E0	967	5 kg	967	35 kg
<b>Lithium ion batteries packed with equipment (including lithium ion polymer batteries)</b>	3481	9		Miscellaneous — Lithium batteries	US 3	A88 A99 A154 A164 A181 A185 A213		E0	966	5 kg	966	35 kg
<b>Lithium metal batteries (including lithium alloy batteries) †</b>	3090	9		Miscellaneous — Lithium batteries	US 2 US 3	A88 A99 A154 A164 A183 A201 A213		E0	FORBIDDEN		See 968	
<b>Lithium metal batteries contained in equipment (including lithium alloy batteries) †</b>	3091	9		Miscellaneous — Lithium batteries	US 2 US 3	A48 A88 A99 A154 A164 A181 A185 A213 A220		E0	970	5 kg	970	35 kg

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
Lithium metal batteries packed with equipment (including lithium alloy batteries) †	3091	9		Miscellaneous — Lithium batteries	US 2 US 3	A88 A99 A154 A164 A181 A185 A213		E0	969	5 kg	969	35 kg 

Revise the amendments to Table 3-1 proposed in DGP/29-WP/13 by removing A164 from column 7 for the following proposed new entries:

- UN 3551 — **Sodium ion batteries**
- UN 3552 — **Sodium ion batteries contained in equipment**
- UN 3552 — **Sodium ion batteries packed with equipment**
- UN 3556 — **Vehicle, lithium ion battery powered**
- UN 3557 — **Vehicle, lithium metal battery powered**
- UN 3558 — **Vehicle, sodium ion battery powered**

...

### Chapter 3

## SPECIAL PROVISIONS

Table 3-2. Special provisions

*TIs*    *UN*

---

...

A164

~~Any electrical battery or battery-powered device, equipment or vehicle having the potential of a dangerous evolution of heat must be prepared for transport so as to prevent:~~

~~a) a short circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or, in the case of equipment, by disconnection of the battery and protection of exposed terminals); and~~

~~b) unintentional activation.~~

~~Not used.~~

...

**Part 4****PACKING INSTRUCTIONS**

...

**Chapter 11****CLASS 9 — MISCELLANEOUS DANGEROUS GOODS**

...

**Packing Instruction 952**

Passenger and cargo aircraft for UN 3171 only

(See Packing Instruction 220 for flammable gas-powered engines and machinery, Packing Instruction 378 for flammable liquid-powered engines and machinery, Packing Instruction 950 for flammable liquid-powered vehicles, Packing Instruction 951 for flammable gas-powered vehicles or Packing Instruction 972 for engines or machinery containing only environmentally hazardous fuels)

...

**ADDITIONAL PACKING REQUIREMENTS**

This entry applies to vehicles and equipment which are powered by wet batteries, sodium batteries or lithium batteries and which are transported with these batteries installed. Examples of such vehicles and equipment are electrically-powered cars, lawn mowers, wheelchairs and other mobility aids. Vehicles that also contain an internal combustion engine must be consigned under the entry UN 3166 Vehicle (flammable gas powered) (See Packing Instruction 951) or Vehicle (flammable liquid powered) (See Packing Instruction 950), as appropriate.

Where vehicles could possibly be handled in other than an upright position, the vehicle must be secured in a strong, rigid outer packaging of the type below. The vehicle must be secured by means capable of restraining the vehicle in the outer packaging to prevent any movement during transport which would change the orientation or cause the vehicle to be damaged. Vehicles and equipment must be equipped with an effective means of preventing accidental activation.

Battery-powered vehicles, machines or equipment must meet the following requirements:

*Batteries*

All batteries must be installed and securely fastened in the battery holder of the vehicle, machine or equipment and must be protected in such a manner so as to prevent damage and short circuits. In addition:

...

— END —