



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-SIXTH MEETING

Montréal, 16 to 27 October 2017

Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284)* for incorporation in the 2019-2020 Edition

REVISION TO SPECIAL PROVISION A67

(Presented by D. Brennan)

SUMMARY

This working paper proposes a revision to Special Provision A67 to align to the wording of special provision 238 in the UN Model Regulations.

Action by the DGP: The DGP is invited to consider revising the wording of Special Provision A67 as shown in the appendix to this working paper. If this is agreed then there will be consequential amendments to Packing Instruction 872 and to Table 8-1 item 5 as shown in the appendix to this working paper.

1. INTRODUCTION

1.1 In Table 3-1, the entry for UN 2800 — **Batteries, wet, non-spillable** has a number of special provisions assigned, one of which being Special Provision A67, which reads as follows:

- ≠ A67 (≈238) Non-spillable batteries meeting the requirements of Packing Instruction 872 are not subject to these Instructions when carried as cargo if, at a temperature of 55°C, the electrolyte will not flow from a ruptured or cracked case. The battery must not contain any free or unabsorbed liquid. Any electrical battery or battery powered device, equipment or vehicle having the potential of 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.

The words “not restricted” and the special provision number A67 must be provided on the air waybill when an air waybill is issued.

1.2 The basis for A67 comes from special provision 238 in the UN Model Regulations. However, as indicated in Table 3-2 the wording of A67 is only approximately the same as Special Provision 238. The major difference between A67 and 238 is that the conditions under which a battery may be considered as non-spillable, the vibration test and pressure differential test, are set out in Packing Instruction 872 in the Technical Instructions, whereas in the UN Model Regulations these tests form part of the special provision.

1.3 The tests mentioned are those that allow for a battery to be classified as UN 2800 — **Batteries, wet, non-spillable** and as such it is believed that they correctly must be part of the special provision as this forms part of the determination of the assignment to the correct UN number and proper shipping name. To have what is effectively classification criteria in a packing instruction is incorrect as the packing instruction only applies to batteries that have been classified as UN 2800.

1.4 To address this it is proposed to revise the wording of Special Provision A67 to that of special provision 238 in the UN Model Regulations by bringing into A67 the wording of the vibration and pressure differential tests. This text would then be deleted from Packing Instruction 872.

2. ACTION BY THE DGP

2.1 The DGP is invited to revise Special Provision A67 as shown in the appendix to this working paper. If this is agreed then there will be consequential amendments to Packing Instruction 872 and to Table 8-1, item 5 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 3

SPECIAL PROVISIONS

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Table 3-2. Special provisions

TIs UN

A67 (≈238) Batteries can be considered as non-spillable provided that they are capable of withstanding the vibration and pressure differential tests given below, without leakage of battery fluid.

Vibration test. The battery is rigidly clamped to the platform of a vibration machine and a simple harmonic motion having an amplitude of 0.8 mm (1.6 mm maximum total excursion) is applied. The frequency is varied at the rate of 1 Hz/min between the limits of 10 Hz to 55 Hz. The entire range of frequencies and return is traversed in 95 ± 5 minutes for each mounting position (direction of vibration) of the battery. The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.

Pressure differential test. Following the vibration test, the battery is stored for six hours at $24^{\circ}\text{C} \pm 4^{\circ}\text{C}$ while subjected to a pressure differential of at least 88 kPa. The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position.

Note.— Non-spillable type batteries which are an integral part of, and necessary for the operation of, mechanical or electronic equipment must be securely fastened in the battery holder on the equipment and protected in such a manner so as to prevent damage and short circuits.

Non-spillable batteries ~~meeting the requirements of Packing Instruction 872~~ are not subject to these Instructions when carried as cargo if, at a temperature of 55°C , the electrolyte will not flow from a ruptured or cracked case. The battery must not contain any free or unabsorbed liquid. Any electrical battery or battery powered device, equipment or vehicle having the potential of 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.

The words “not restricted” and the special provision number A67 must be provided on the air waybill when an air waybill is issued.

CONSEQUENTIAL AMENDMENT TO PACKING INSTRUCTION 872

Part 4

PACKING INSTRUCTIONS

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Chapter 10

CLASS 8 — CORROSIVE SUBSTANCES

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10.1 PACKING INSTRUCTIONS

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Packing Instruction 872

Passenger and cargo aircraft for UN 2800

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.

COMBINATION PACKAGINGS				SINGLE PACKAGINGS
<i>UN number and proper shipping name</i>	<i>Packing conditions</i>	<i>Total quantity per package — passenger</i>	<i>Total quantity per package — cargo</i>	
UN 2800 Batteries, wet, non- spillable	Batteries must be protected against short circuits and must be securely packed in strong outer packagings.	No limit	No limit	No

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Drums

Jerricans

Strong outer packagings

TESTING

~~Batteries can be considered as non-spillable provided that they are capable of withstanding the vibration and pressure differential tests given below, without leakage of battery fluid.~~

~~Vibration test: The battery is rigidly clamped to the platform of a vibration machine and a simple harmonic motion having an amplitude of 0.8 mm (1.6 mm maximum total excursion) is applied. The frequency is varied at the rate of 1 Hz/min between the limits of 10 Hz to 55 Hz. The entire range of frequencies and return is traversed in 95 ± 5 minutes for each mounting position (direction of vibration) of the battery. The battery must be tested in three~~

mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.

Pressure differential test: Following the vibration test, the battery is stored for six hours at 24°C ±1°C while subjected to a pressure differential of at least 88 kPa. The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position.

3.—

—*Note.*— *Non-spillable type batteries which are an integral part of, and necessary for the operation of, mechanical or electronic equipment must be securely fastened in the battery holder on the equipment and protected in such a manner so as to prevent damage and short circuits.*

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Part 8

PROVISIONS CONCERNING PASSENGERS AND CREW

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Table 8-1. Provisions for dangerous goods carried by passengers or crew

Items or articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked baggage	Carry-on baggage	On the person			
Medical necessities						
...						
5) Mobility aids (e.g. wheelchairs) powered by non-spillable wet batteries or batteries which comply with Special Provision A123 or A199, for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg)	Yes	No	No	Yes	(see 5 d iv))	a) non-spillable wet batteries must comply with Special Provision A67 or the vibration and pressure differential tests of Packing Instruction 872; ...
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