



فريق خبراء البضائع الخطرة

الاجتماع السابع والعشرون

مونتريال، من ١٦ إلى ٢٠/٩/٢٠١٩

البند رقم ٢ من جدول الأعمال: إدارة المخاطر المتعلقة بالسلامة الجوية وتحديد أوجه التعارض
البند رقم ٢-٢: إعداد ما يلزم من اقتراحات لتعديل وثيقة التعليمات الفنية للنقل الآمن للبضائع الخطرة
بطريق الجو (Doc 9284) لإدخالها في طبعة ٢٠٢١-٢٠٢٢ من الوثيقة

تنقيح لأحكام المغلفات المسموح بها في القسم ٤٩٢
والأقسام من ٨٧٠ إلى ٨٧٢ من تعليمات التغليف

(مقدمة من د. برينان)

الموجز

تتضمن هذه الورقة اقتراحاً بتنقيح القسم ٤٩٢ والأقسام من ٨٧٠ إلى ٨٧٢ من تعليمات التغليف
لتنضم السماح بالمغلفات الفردية، من أجل موافقة أحكام التغليف مع اللوائح التنظيمية النموذجية
للأمم المتحدة.
الإجراء المطلوب من فريق الخبراء: يُرجى من فريق الخبراء النظر في التنقيحات المقترحة الواردة
في المرفق بهذه الورقة.

1. INTRODUCTION

1.1 In reviewing the packagings that are permitted for UN 3292, **Batteries, containing sodium** and **Cells, containing sodium**, it was identified that there is an inconsistency between the packagings permitted by Packing Instruction 492 in the Technical Instructions and packing instruction P408 in the UN Model Regulations.

1.2 The Technical Instructions show that single packagings are permitted for Batteries, containing sodium but that only combination packagings are permitted for Cells, containing sodium. However, as both cells and batteries are placed directly into the (outer) packaging, then technically this is not a “combination” packaging and to refer to such is misleading and confusing for users.

1.3 It was also identified that requirements in P408 in the *UN Model Regulations* for cushioning material to be provided in packagings for cells is missing from Packing Instruction 492.

1.4 When further reviewing the packing instructions for other battery types, i.e. Packing Instruction 870 for UN 2794 **Batteries, wet, filled with acid** and UN 2795 **Batteries, wet, filled with alkali**, Packing Instruction 871 for UN 3028 **Batteries, dry, containing potassium hydroxide, solid**, and Packing Instruction 872 for UN 2800 **Batteries, wet, non-spillable**, similar inconsistencies on the permission for single packagings was identified.

1.5 Additionally, during the review of the permitted outer packagings for Packing Instruction 492, it was identified that plywood drum (1D) is permitted in the UN Model Regulations but not the Technical Instructions, and this packaging should also be applicable to Packing Instruction 870.

1.6 To address these inconsistencies and provide better alignment between the Technical Instructions and the UN Model Regulations, it is proposed to revise Packing Instruction 492, and Packing Instructions 870 to 872.

2. ACTION BY THE DGP

2.1 The DGP is invited to consider revising Packing Instruction 492 and Packing Instructions 870 to 872 as shown in the appendix to this working paper.

APPENDIX

PROPOSED AMENDMENT TO PART 4 OF THE TECHNICAL INSTRUCTIONS

Part 4

PACKING INSTRUCTIONS

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Chapter 6

CLASS 4 – FLAMMABLE SOLIDS; SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION; SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES

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Packing Instruction 492

Passenger and cargo aircraft for UN 3292 only

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2) Closure requirements

— Closures must meet the requirements of 4;1.1.4.

COMBINATION PACKAGINGS				SINGLE PACKAGINGS
UN number and proper shipping name	Packing conditions	Total quantity per package — passenger	Total quantity per package — cargo	
UN 3292 Batteries, containing sodium	Batteries may be offered for transport and transported unpacked or in protective enclosures such as fully enclosed or wooden slatted crates that are not subject to the requirements of Part 6 of these Instructions.	Forbidden	No limit	No limit
UN 3292 Cells, containing sodium	<u>There must be sufficient cushioning material to prevent contact between cells and between cells and the internal surfaces of the outer packaging and to ensure that no dangerous movement of the cells within the outer packaging occurs in transport.</u>	25 kg G	No limit	No

ADDITIONAL PACKING REQUIREMENTS ~~FOR COMBINATION PACKAGINGS~~

- Packagings must meet the Packing Group II performance requirements.
- Cells and Bbatteries must be protected against short circuit and must be isolated in such a manner as to prevent short circuits.

~~OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6.3.1)~~

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N2)
Plastics (1H2)
Plywood (1D)
Steel (1A2)

Jerricans

Aluminium (3B2)
Plastics (3H2)
Steel (3A2)

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Chapter 10

CLASS 8 — CORROSIVE SUBSTANCES

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Packing Instruction 870

Passenger and cargo aircraft for UN 2794 and 2795 only

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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 2794 Batteries, wet, filled with acid UN 2795 Batteries, wet, filled with alkali	<p>Batteries must be placed in an acid/alkali-proof liner of sufficient strength and adequately sealed to positively preclude leakage in the event of spillage. 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. The upright position of the package must be indicated on it by "Package orientation" labels (Figure 5-29) as required by 5;3. The words "This side up" or "This end up" may also be displayed on the top of the package.</p> <p><i>Batteries installed in equipment</i></p> <p>If batteries are shipped as an integral component of assembled equipment, they must be securely installed and fastened in an upright position and protected against contact with other articles so as to prevent short circuits. Batteries must be removed and packed according to this packing instruction if the assembled equipment is likely to be carried in other than an upright position.</p>	30 kg	No limit	Unpackaged batteries No

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

- Packagings must meet the Packing Group II performance requirements.
- For batteries, electric storage, packed with battery fluid in the same outer packaging, see UN 2796 and UN 2797.

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)*Boxes*

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N2)
Plastics (1H2)
Plywood (1D)
Steel (1A2)

Jerricans

Aluminium (3B2)
Plastics (3H2)
Steel (3A2)

Packing Instruction 871

Passenger and cargo aircraft for UN 3028 only

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 3028 Batteries, dry, containing potassium hydroxide solid	The batteries must be securely cushioned in the packagings.	25 kg	230 kg	No

ADDITIONAL PACKING REQUIREMENTS ~~FOR COMBINATION PACKAGINGS~~

- Packagings must meet the Packing Group II performance requirements.

~~OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)~~

Boxes

- Aluminium (4B)
- Fibreboard (4G)
- Natural wood (4C1, 4C2)
- Plastics (4H2)
- Plywood (4D)
- Reconstituted wood (4F)
- Steel (4A)

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

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