DGP/30-WP/14*
15/8/25

منظمة الطيران المدني الدولي

ورقة عمل

فريق خبراء البضائع الخطرة

الاجتماع الثلاثون

مونتريال، ٦ إلى ٢٠٢٥/١٠/١٠

البند رقم ١: مواءمة أحكام الإيكاو المتعلقة بالبضائع الخطرة مع توصيات الأمم المتحدة بشأن نقل البضائع الخطرة (REC-A-DGS-2027)

البند رقم ١-٢: إعداد اقتراحات، عند الاقتضاء، لتعديل "التعليمات الفنية للنقل الآمن للبضائع الخطرة بطريق الجو" (الوثيقة Doc 9284) لإدراجها في طبعة ٢٠٢٥-٢٠٢٦

تعديلات على الجزء الرابع من التعليمات الفنية التي أعدتها مجموعة العمل التابعة لفريق خبراء البضائع الخطرة في عام ٢٤ (DGP-WG/2024) وعام ٢٥ (DGP-WG/2025)

(ورقة عمل مقدمة من مجموعة العمل التابعة لفريق خبراء البضائع الخطرة بشأن التنسيق مع لوائح الأمم المتحدة)

الموجز

تحتوي هذه الورقة على مشروع التعديلات المجمَّعة لإدخالها على الجزء الرابع من التعليمات الفنية التي أعدتها مجموعة العمل التابعة لفريق خبراء البضائع الخطرة في عام ٢٠٢٤ (DGP-WG/2024) وعام ٢٠٢٥ (DGP-WG/2025). وفيما يلي التعديلات:

أ) مراعاة القرارات التي اتخذتها "لجنة الخبراء المعنية بنقل البضائع الخطرة وبالنظام المنسق عالمياً لتصنيف المواد الكيميائية ووسمها" التابعة للأمم المتحدة، في دورتها الثانية عشرة لتعديل الطبعة الثالثة والعشرين المنقحة من اللائحة التنظيمية النموذجية للأمم المتحدة (جنيف، ٢٠٢٤/١٢/٦)؛

ب) تسهيل النقل أو الإشراف من جانب الدولة؛

ج) معالجة المسائل المتعلقة بأجهزة تخزين الطاقة.

أجرت "مجموعة عمل بأن التنسيق مع لوائح الأمم المتحدة" التابعة لفريق خبراء البضائع الخطرة (DGP-WG/UN Harmonization) مراجعة شاملة للتعديلات على الجزء الرابع بغرض مواءمته مع توصيات الأمم المتحدة في عام ٢٠٢٥. وقد حددت هذه المراجعة الحاجة إلى إجراء تعديلات إضافية واعتبارات أخرى في المستقبل موضحة في هذه الورقة.

* لم يترجم سوى موجز ورقة العمل.

الإجراءات المعروضة على فريق خبراء البضائع الخطرة: يُدعى الفريق إلى القيام بما يلي:

أ) الموافقة على مشروع التعديلات الواردة في المرفق بهذه الورقة ؛

ب) مناقشة المسائل المثارة في الفقرة ٣ من هذه الورقة، والنظر في تكليف مجموعة العمل التابعة لفريق خبراء البضائع الخطرة بشأن التنسيق مع لوائح الأمم المتحدة، بمعالجتها خلال فترة السنتين المقبلة.

1. INTRODUCTION

1.1 This working paper contains consolidated draft amendments to Part 4 of the Technical Instructions developed by the Working Group of the DGP in 2024 (DGP-WG/2024) and 2025 (DGP-WG/2025). The amendments:

a) 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 twelfth session to amend the 23rd revised edition of the UN Model Regulations (Geneva, 6 December 2024);

b) facilitate transport or state oversight; and

c) address issues related to energy storage devices.

1.2 The DGP Working Group on UN Harmonization (DGP-WG/UN Harmonization) conducted an extensive review of the amendments to Part 4 proposed for the sake of harmonization with the UN Recommendations by DGP-WG/2025. It identified a need for additional revisions and future considerations outlined below.

2. ADDITIONAL REVISIONS

2.1 DGP-WG/UN Harmonization identified a need for the following additional revisions to the amendment to Part 4 presented at DGP-WG/25:

a) the incorporation of sodium ion batteries in Packing Instructions 222 and 975 to align with amendments to Part 2;0.6 proposed in DGP/30-WP/12 (see also Special Provisions A224 and A225 in Part 3 (DGP/30-WP/13) and the addition of the prohibition from transport of sodium ion and lithium cells and batteries identified as being damaged or defective in accordance with Special Provision A154;

b) the addition of provisions for UN 3363 — **Dangerous goods in apparatus** or **Dangerous goods in machinery** or **Dangerous goods in articles** to contain lithium cells or batteries or sodium ion cells or batteries through Packing Instruction 962. The corresponding provisions are contained in special provision 301 of the UN Model Regulations. The UN allows the apparatus or machinery or articles to contain batteries if specific provisions contained in special provision 188 are met. These provisions are contained in Section II of Packing Instructions 967, 970 and 978 of the Technical Instructions. DGP-WG/UN Harmonization recommends duplicating the applicable parts of Section II from these packing instructions into the packing instruction assigned to UN 3363 (Packing Instruction 962), given that not all the provisions of Section II apply, and the structure of the section makes it difficult to refer to specific parts. DGP WG/UN Harmonization recommends that a holistic review of how battery provisions are incorporated in packing instructions and special provisions in the Technical Instructions be undertaken over the next biennium and consideration be given as to how the provisions can be simplified to avoid the need for duplicated text, as detailed in paragraph 3 b) of this working paper; and

c) The removal of an additional packing requirement for single packagings for UN 2029 – **Hydrazine, anhydrous** in Packing Instruction 854, given that single packagings are not permitted for this substance.

The additional proposed revisions recommended by DGP-WG/UN Harmonization are highlighted in yellow in this working paper

3. FUTURE WORK

3.1 DGP-WG/UN Harmonization is seeking support from the panel to undertake work over the next biennium to address the following issues identified during its review of amendments to Part 4:

a) There is a lack of criteria for determining when provisions should be included in a packing instruction versus when they should be included in a special provision, which has led to inconsistencies and duplicated text. DGP-WG/UN Harmonization recommends that criteria and consequential proposed amendments be developed, if necessary, for the consideration of the panel over the next biennium.

b) There is a lack of consistency with how various packing instructions for articles, machinery, equipment etc. containing dangerous goods incorporate provisions for them to also contain sodium ion or lithium battery and cells, with some repeating specific provisions from Section II of the applicable packing instructions dedicated to lithium ion batteries, lithium metal batteries or sodium ion batteries contained in equipment and others simply referring to Section II of the applicable packing instruction. DGP WG/Harmonization recommends efforts be taken to simplify the provisions over the next biennium. DGP-WG/UN Harmonization notes the potential for implementation errors when too many changes are made. Assessing this risk against the risk of errors being introduced through a lack of consistency is therefore necessary. The potential for significant changes to the battery provisions once the new hazard classification system is completed by the UN needs to also be considered.

c) Several misalignments with the UN Model Regulations in the provisions for UN 2990 – **Life-saving appliances, self-inflating** and UN 3072 – **Life-saving appliances, not self-inflating** were identified in Packing Instruction 955, but DGP-WG/UN Harmonization did not have time to consider whether there was justification for them. DGP-WG/UN Harmonization recommends a review of this packing instruction over the next biennium to consider whether misalignments with the UN are intentional, to document justification for the misalignment in the DGP guidance document if they are, and to develop proposed amendments if the provisions should align.

4. ACTION BY THE DGP

4.1 The DGP is invited to:

a) The DGP is invited to:

b) agree to the draft amendments contained in the appendix to this working paper;

c) discuss the issues raised in paragraph 3 to this working paper and consider tasking DGP-WG/UN Harmonization with addressing them over the next biennium.

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APPENDIX

PROPOSED AMENDMENT TO PART 4 OF THE TECHNICAL INSTRUCTIONS

Part 4

PACKING INSTRUCTIONS

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Chapter 2

GENERAL

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.3.4 (see ST/SG/AC.10/52/Add.1)

2.5 The following packagings must not be used when the substances being transported are liable to become liquid during transport:

Single packagings

For substances of Packing Group I, unless approved for the transport of liquids of Packing Group I:

Drums:	1A2, 1B2, 1H2 and 1N2
Jerricans:	3A2, 3B2 and 3H2

For substances of Packing Groups I, II and III:

Drums:	1D and 1G
Boxes:	4A, 4B, 4C1, 4C2, 4D, 4F, 4G ~~and~~, 4H1, 4H2 and 4N
Bags:	5L1, 5L2, 5L3, 5H1, 5H2, 5H3, 5H4, 5M1 and 5M2
Composite packagings:	6HC, 6HD1, 6HD2, 6HG1, 6HG2~~, 6HD1~~, 6PC, 6PD1, 6PD2, 6PG1, 6PG2 ~~and~~, 6PH1 and 6PH2.

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.3.6.5 (see ST/SG/AC.10/52/Add.1)

2.7.6 The ~~level~~ degree of filling must not exceed 95 per cent of the capacity of the cylinder at 50°C. Sufficient ullage (outage) must be left to ensure that the cylinder will not be liquid full at a temperature of 55°C.

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Chapter 3

CLASS 1 – EXPLOSIVES

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Packing Instruction 130

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.4.1, P130 (see ST/SG/AC.10/52/Add.1)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

— The following applies to UN 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0238, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0459, 0488, 0502 and 0510. Large and robust explosive articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems must be protected against stimuli encountered during normal conditions of transport. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for transport unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling, storage or launching devices in such a way that they will not become loose during normal conditions of transport. Where such large explosive articles are as part of their operational safety and suitability tests subjected to test regimes that meet the intentions of these Instructions and such tests have been successfully undertaken, the appropriate national authority may approve such articles to be transported under these Instructions.

— For UN 0457, 0458, 0459 and 0460, whenever loose explosive substances or the explosive substance of an uncased or partly cased article may come into contact with the inner surface of metal packagings (1A2, 1B2, 4A, 4B and metal receptacles), the metal packaging must be provided with an inner liner or coating.

— For UN Nos. 0012 and 0014, despite the requirements of 4;3.3.1.6, articles may be packed without internal cushioning, fittings, coating or liner in metal outer packagings.

Chapter 4

CLASS 2 – GASES

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4.1 SPECIAL PACKING PROVISIONS FOR DANGEROUS GOODS OF CLASS 2

4.1.1 General requirements

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.6.1.2 (see ST/SG/AC.10/52/Add.1)

4.1.1.2 Parts of cylinders and closed cryogenic receptacles that are in direct contact with dangerous goods must not be affected or weakened by those dangerous goods and must not cause a dangerous effect (such as catalysing a reaction or reacting with the dangerous goods). In addition to the requirements specified in the relevant packing instruction, which take precedence, the applicable provisions of ISO 11114-1:2020 + Amd 1:2023 and ISO 11114-2:2021 must be met.

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.6.1.8 (see ST/SG/AC.10/52/Add.1)

4.1.1.8 Valves must be designed and constructed in such a way that they are inherently able to withstand damage without release of the contents or must be protected from damage, which could cause inadvertent release of the contents of the cylinder and closed cryogenic receptacle, by one of the following methods:

a) Valves are placed inside the neck of the cylinder and closed cryogenic receptacle and protected by a threaded plug or cap;

b) Valves are protected by caps or guards. Caps must possess vent holes of a sufficient cross-sectional area to evacuate the gas if leakage occurs at the valves;

c) Valves are protected by shrouds or permanent protective attachments;

d) Not used; or

e) Cylinders and closed cryogenic receptacles are transported in an outer packaging. The packaging as prepared for transport must be capable of meeting the drop test specified in 6;4.3 at the Packing Group I performance level.

For cylinders and closed cryogenic receptacles with valves as described in b), the requirements of ISO 11117:1998, ISO 11117:2008 + Cor 1:2009 or ISO 11117:2019 must be met. Requirements for shrouds and permanent protective attachments used as valve protection under c) are given in the relevant pressure receptacle shell design standards, see 6;5.2.1. Valves with inherent protection used for refillable cylinders must meet the requirements of clause 4.6.2 of ISO 10297:2006, clause 5.5.2 of ISO 10297:2014, clause 5.5.2 of ISO 10297:2014 + Amd 1:2017 or clause 5.4.2 of ISO 10297:2024 or, in the case of self -closing valves, of clause 5.4.2 of ISO 17879:2017. For valves with inherent protection used for non-refillable cylinders, the requirements of clause 9.2.5 of ISO 11118:2015 or of clause 9.2.5 of ISO 11118:2015 + Amd 1:2019 must be met.

Packing Instruction 200

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The following requirements must be met:

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.4.1, P200 (see ST/SG/AC.10/52/Add.1)

5) The filling of cylinders must be carried out by qualified staff using appropriate equipment and procedures. The procedures should include checks of:

   a) the conformity of cylinders and accessories with these Instructions;
   b) their compatibility with the product to be transported;
   c) the absence of damage which might affect safety;
   d) compliance with the ~~degree or pressure of filling~~ filling ratio or pressure of filling, as appropriate; and
   e) marks and identification.

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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 459

Passenger and cargo aircraft – self-reactive substances and polymerizing substances

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.7.1.1 (see ST/SG/AC.10/52/Add.1)

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

— Cushioning materials must not be readily combustible.
— Packagings must meet the Packing Group II performance requirements.
— To avoid the unnecessary confinement of liquids, metal packagings meeting the criteria of the internal pressure (hydraulic) test for Packing Group I must not be used.

Note.— The shipper should consult with the packaging manufacturer to verify that the metal packaging does not meet the internal pressure (hydraulic) test criteria for Packing Group I.

UN 3223 or UN3224

Energetic samples classified in accordance with Part 2, Introductory Chapter, paragraph 5.4 may be carried under UN 3223 or UN 3224, as appropriate, provided that:

1. The quantity per individual inner cavity does not exceed 0.01 g for solids or 0.01 mL for liquids and the maximum net quantity per outer packaging does not exceed 20 g for solids or 20 mL for liquids, or in the case of mixed packing the sum of grams and millilitres does not exceed 20:

   a) the samples are carried in microtiter plates or multi-titer plates made of plastics, glass, porcelain or stoneware as an inner packaging;

   b) only combination packaging with outer packaging comprising boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1 and 4H2) are permitted; or

UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.4.1, P520 (see ST/SG/AC.10/52/Add.1)

2. The maximum content of each inner packaging does not exceed 1 g for solids or 1 mL for liquids and the maximum net quantity per outer packaging does not exceed 56 g for solids or 56 mL for liquids, or in the case of mixed packing the sum of grams and millilitres does not exceed 56:

   a) The individual substance is contained in an inner packaging of glass or plastics of maximum capacity of 30 mL placed in an expandable polyethylene foam matrix of at least 130 mm thickness having a density of 18 ±1 g/L or 24 ± 2.4 g/l;

   b) Within the foam carrier, inner packagings are segregated from each other by a minimum distance of 40 mm

and from the wall of the outer packaging by a minimum distance of 70 mm. The package may contain up to two layers of such foam matrices, each carrying up to twenty-eight inner packagings;

c) The outer packaging consists only of corrugated fibreboard boxes (4G) having minimum dimensions of 60 cm (length) by 40.5 cm (width) by 30 cm (height) and minimum wall thickness of 1.3 cm.

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Packing Instruction 497

Passenger and cargo aircraft for UN 3476 (packed with equipment) only

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UN harmonization amendments

Paragraph 4.2.2.8 of DGP-WG/25 report:

ADDITIONAL PACKING REQUIREMENTS

— When fuel cell cartridges are packed with equipment, they must be packed in intermediate packagings together with the equipment they are capable of powering.
— The ~~maximum~~ number of fuel cell cartridges in the intermediate packaging must ~~be~~ not exceed the ~~minimum~~ number required ~~to power the equipment~~ for the equipment's operation, plus two spare~~s~~ sets. A "set" of fuel cell cartridges is the number of individual fuel cell cartridges that are required to power each piece of equipment.
— The fuel cell cartridges and the equipment must be packed with cushioning material or divider(s) or inner packaging so that the fuel cell cartridges are protected against damage that may be caused by the movement or placement of the equipment and the cartridges within the packaging.
— The mass of each fuel cell cartridge must not exceed 1 kg.

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes	*Drums*	*Jerricans*
Strong outer packagings		

Chapter 7

CLASS 5 – OXIDIZING SUBSTANCES; ORGANIC PEROXIDES

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Packing Instruction 570

Passenger and cargo aircraft

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.7.1.1 (see ST/SG/AC.10/52/Add.1)

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

— Packagings must meet the Packing Group II performance requirements.
— To avoid the unnecessary confinement of liquids, metal packagings meeting the criteria of the internal pressure (hydraulic) test for Packing Group I must not be used.

Note.— The shipper should consult with the packaging manufacturer to verify that the metal packaging does not meet the internal pressure (hydraulic) test criteria for Packing Group I.

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Chapter 10

CLASS 8 – CORROSIVE SUBSTANCES

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Packing Instructions 854 – 856

Cargo aircraft only

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ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group I

— Inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

Packing Group III

— Packagings must meet the Packing Group II performance requirements.

UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 4.1, 4.1.4.1, P001 (see ST/SG/AC.10/52/Add.1)

DGP-WG/UN Harmonization proposes removing the following provision, because Packing Instruction 854, which is assigned to this Packing Group I substance, prohibits the use of single packagings.

~~**ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS**~~

~~*For UN 2029*~~

~~When a cylinder is used, the internal pressure at 65°C must not exceed the test pressure.~~

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Chapter 11

CLASS 9 – MISCELLANEOUS DANGEROUS GOODS

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UN harmonization amendments

Amendments to manage aviation specific risks and address anomalies

DGP-WG/UN Harmonization identified a need to incorporate sodium ion cells and batteries into this packing instruction to align with Part 2;0.6.2 and to add the prohibition from transport of cells or batteries identified as being damage or defective in accordance with Special Provision A154 in Packing Instruction 222:

Packing Instruction 222

Passenger and cargo aircraft for UN 3538 only

Introduction

This packing instruction is only permitted for articles which do not have an existing proper shipping name and which contain only gases of Division 2.2 without a subsidiary hazard, but excluding refrigerated liquefied gases and gases forbidden for transport on passenger aircraft, where the quantity of the Division 2.2 gas exceeds the quantity limits for UN 3363 as prescribed in Packing Instruction 962. In addition to the Division 2.2 gas, the article may also contain lithium metal, lithium ion or sodium ion cells or batteries that comply with Section II of Packing Instruction 967 ~~or~~, Section II of Packing Instruction 970 or Section II of Packing Instruction 978, as applicable. Cells or batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport.

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Packing Instruction 950

Passenger and cargo aircraft for UN 3166 only

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ADDITIONAL PACKING REQUIREMENTS

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 388 (see ST/SG/AC.10/52/Add.1):

See also proposed amendment to Special Provision A214

Batteries

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

1) If spillable batteries are installed, and it is possible for the vehicle to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 870.

2) If lithium batteries or sodium ion batteries are installed:

   i) ~~lithium~~ batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport; and

   ii) lithium batteries must meet the provisions of Part 2;9.3 and sodium ion batteries must meet the provisions of Part 2;9.4, except that pre-production prototypes of lithium batteries or cells or sodium ion batteries or cells, when these prototypes are transported for testing, or low production runs of lithium batteries or cells or sodium ion batteries or cells that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator. A copy of the document of approval must accompany the consignment.

3) If metallic sodium or sodium alloy batteries are installed, they must conform to the requirements of Special Provision A94.

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Packing Instruction 951

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ADDITIONAL PACKING REQUIREMENTS

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 388 (see ST/SG/AC.10/52/Add.1):

See also proposed amendment to Special Provision A214

Batteries

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

1) If spillable batteries are installed, and it is possible for the vehicle to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 870.

2) If lithium batteries or sodium ion batteries are installed:

   i) ~~lithium~~ batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport; and

   ii) lithium batteries must meet the provisions of Part 2;9.3 and sodium ion batteries must meet the provisions of Part 2;9.4, except that pre-production prototypes of lithium batteries or cells or sodium ion batteries or cells, when these prototypes are transported for testing, or low production runs of lithium batteries or cells or sodium ion batteries or cells that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator. A copy of the document of approval must accompany the consignment.

3) If metallic sodium or sodium alloy batteries are installed, they must conform to the requirements of Special Provision A94.

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Packing Instruction 952

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ADDITIONAL PACKING REQUIREMENTS

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 388 (see ST/SG/AC.10/52/Add.1):

See also proposed amendment to Special Provision A214

Batteries

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

1) If spillable batteries are installed, and it is possible for the vehicle or equipment to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 870.

2) If lithium batteries or sodium ion batteries are installed:

   i) batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport;

   ii) lithium batteries must meet the provisions of Part 2;9.3 and sodium ion batteries must meet the provisions of Part 2;9.4, except that pre-production prototypes of lithium batteries or cells or sodium ion batteries or cells, when these prototypes are transported for testing, or low production runs of lithium batteries or cells or sodium ion batteries or cells that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator. A copy of the document of approval must accompany the consignment;

   iii) where the battery is removed from the vehicle and is packed separate from the vehicle in the same outer packaging, the package must be consigned as UN 3481 – **Lithium ion batteries packed with equipment**, UN 3552 – **Sodium ion batteries packed with equipment** or UN 3091 – **Lithium metal batteries packed with equipment** and packed according to Packing Instruction 966, 969 or 977, as applicable; and

   iv) for UN 3556 – **Vehicle, lithium ion battery powered**, UN 3557 – **Vehicle, lithium metal battery powered** when the battery is rechargeable, and UN 3558 – **Vehicle, sodium ion battery powered**:

      1) **Until 31 December 2025**

         Vehicles should be offered for transport with:

         — the battery(ies) at a state of charge not exceeding 30 per cent of their rated capacity; or
         — an indicated battery capacity not exceeding 25 per cent.

      2) **From 1 January 2026**

         a) Vehicles powered by batteries with a Watt-hour rating in excess of 100 Wh must be offered for transport with:

            — the battery(ies) at a state of charge not exceeding 30 per cent of their rated capacity; or
            — an indicated battery capacity not exceeding 25 per cent.

         b) Vehicles powered by batteries with a Watt-hour rating not in excess of 100 Wh should be offered

for transport with:

— the battery(ies) at a state of charge not exceeding 30 per cent of their rated capacity; or
— an indicated battery capacity not exceeding 25 per cent.

c) Vehicles powered by batteries with a Watt-hour rating in excess of 100 Wh and at a state of charge exceeding 30 per cent of their rated capacity or with an indicated battery capacity exceeding 25 per cent may only be offered for transport with the approval of the appropriate national authorities of the State of Origin and the State of the Operator under the written conditions established by those authorities.

Note.— Guidance and methodology for determining the rated capacity can be found in sub-section 38.3.2.3 of the UN Manual of Tests and Criteria*. Cells and batteries shipped at a reduced state of charge are less prone to thermal runaway.*

3) If metallic sodium or sodium alloy batteries are installed, they must conform to the requirements of Special Provision A94.

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Packing Instruction 955

Passenger and cargo aircraft for UN 2990 and UN 3072 only

UN harmonization amendments

UN Model Regulations, Chapter 3.3, SP 296 (see ST/SG/AC.10/52/Add.1):

The term "life-saving appliances" applies to articles such as life rafts~~, life vests~~, personal flotation devices, self-inflating protective equipment, aircraft survival kits or aircraft evacuation slides.

The description "Life-saving appliances, self-inflating" (UN 2990) is intended to apply to life-saving appliances that present a hazard if the self-inflating device is activated accidentally.

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.

2) **Closure requirements**

— Closures must meet the requirements of 4;1.1.4.

UN number and proper shipping name	*Quantity – passenger*	*Quantity – cargo*
UN 2990 **Life-saving appliances, self-inflating** UN 3072 **Life-saving appliances, not self-inflating** containing dangerous goods as equipment	No limit	No limit

ADDITIONAL PACKING REQUIREMENTS

Life-saving appliances may only contain the dangerous goods listed below:

a) Division 2.2 gases, must be contained in cylinders which conform to the requirements of the appropriate national authority of the country in which they are approved and filled. Such cylinders may be connected to the life-saving appliance. These cylinders may include installed actuating cartridges (cartridges, power device of Division 1.4C and 1.4S) or safety devices of Class 9 (UN 3268) provided the aggregate quantity of deflagrating (propellant) explosives does not exceed 3.2 grams per unit. When the cylinders are shipped separately, they must be classified as appropriate for the Division 2.2 gas contained and need not be marked, labelled or described as explosive articles;

b) signal devices (Class 1), which may include smoke and illumination signal flares; signal devices must be packed in plastic or fibreboard inner packagings;

c) small quantities of flammable substances, corrosive solids and organic peroxides (Class 3, Class 8, Division 4.1 and 5.2), which may include a repair kit and not more than 30 strike-anywhere matches. The organic peroxide may only be a component of a repair kit and the kit must be packed in strong inner packaging. The strike-anywhere matches must be packed in a cylindrical metal or composition packaging with a screw-type closure and be cushioned to prevent movement;

d) electric storage batteries (Class 8), which must be disconnected or electrically isolated and protected against short circuits;

Editorial revisions proposed (the provision does not make sense without them):

e) lithium batteries ~~and~~ or sodium ion batteries provided the following conditions are met:

1) those identified as damaged or defective in accordance with Special Provision A154 are forbidden for transport;

2) they must meet the applicable requirements of 2;9.3 or 2;9.4, as applicable;

3) they must be disconnected or electrically isolated and protected against short circuits; and

4) they must be secured against movement within the appliance.

f) first aid kits which may include flammable, corrosive and toxic articles or substances.

The appliances must be packed, so that they cannot be accidentally activated, in strong outer packagings and, except for life vests, the dangerous goods must be in inner packagings packed so as to prevent movement. The dangerous goods must be an integral part of the appliance without which it would not be operational and in quantities which do not exceed those appropriate for the actual appliance when in use.

Life-saving appliances may also include articles and substances not subject to these Instructions which are an integral part of the appliance.

Packing Instruction 962

Passenger and cargo aircraft for UN 3363 only

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UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 301 (see ST/SG/AC.10/52/Add.1):

See also proposed amendment to Special Provision A107

ADDITIONAL PACKING REQUIREMENTS

— If the article contains more than one item of dangerous goods and these could react dangerously with one another during transport, ~~the individual~~ each of the dangerous goods must be enclosed ~~to prevent them reacting dangerously with one another during transport~~ separately (see 4;1.1.3).
— Receptacles containing dangerous goods must be so secured or cushioned so as to prevent their breakage or leakage and so as to control their movement within the article during normal conditions of transport. Cushioning material must not react dangerously with the contents of the receptacles. Any leakage of the contents must not substantially impair the protective properties of the cushioning material.
— "Package orientation" labels (Figure 5-29), or preprinted orientation labels meeting the same specification as either Figure 5-29 or ISO Standard 780-1997 must be affixed on at least two opposite vertical sides with the arrows pointing in the correct direction only when required to ensure liquid dangerous goods remain in their intended orientation.
— Irrespective of 5;3.2.10, articles containing magnetized material meeting the requirements of Packing Instruction 953 must also bear the "Magnetized material" label (Figure 5-27).
— For Division 2.2 gases, cylinders for gases, their contents and filling ratios must conform to the requirements of Packing Instruction 200.

— Dangerous goods in articles must be packed in strong outer packagings unless the receptacles containing the dangerous goods are afforded adequate protection by the construction of the articles.

Fuel system components

— Fuel system components must be emptied of fuel as far as practicable and all openings must be sealed securely. They must be packed:

1) in sufficient absorbent material to absorb the maximum amount of liquid which may possibly remain after emptying. Where the outer packaging is not liquid tight, a means of containing the liquid in the event of leakage must be provided in the form of a leakproof liner, plastic bag or other equally efficient means of containment; and

2) in strong outer packagings.

The following is proposed for the sake of alignment with Special Provision 301 of the UN Model Regulations, which refers to specific parts of Special Provision 188, which correspond to parts of Section II of Packing Instructions 967, 970 and 978 of the Technical Instructions. DGP-WG/UN Harmonization recommends duplicating the applicable parts of Section II. The green highlighted text differs from the text in Section II of the applicable packing instructions.

Batteries

— Cells or batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport.

— Lithium cells or batteries contained in the article must meet the provisions of 2;9.3 a), e), f) (if applicable) and g) and sodium ion cells or batteries contained in the article must meet the provisions of 2;9.4 a), e) and f) and the following:

1) for lithium ion and sodium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh and for lithium metal cells, the lithium content is not more than 1 g;

2) for lithium ion and sodium ion batteries, the Watt-hour rating is not more than 100 Wh and for lithium metal batteries, the aggregated lithium content is not more than 2 g;

3) for lithium ion and sodium ion batteries, the Watt-hour rating must be marked on the outside of the battery case except for batteries manufactured before 1 January 2009.

— Articles containing lithium ion batteries should be offered for transport with:
  — the cells and batteries at a state of charge not exceeding 30 per cent of their rated capacity; or
  — an indicated battery capacity not exceeding 25 per cent.

Note.— Guidance and methodology for determining the rated capacity can be found in sub-section 38.3.2.3 of the UN Manual of Tests and Criteria. *Cells and batteries shipped at a reduced state of charge are less prone to thermal runaway.*

— The article must be packed in strong rigid outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1). Large equipment can be offered for transport unpackaged or on pallets when the cells or batteries are afforded equivalent protection by the equipment in which they are contained.
— The article must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
— Cells and batteries must be protected so as to prevent short circuits.
— Where multiple ~~pieces of equipment~~ articles are packed in the same outer packaging, each ~~piece of equipment~~ article must be packed to prevent contact with other ~~equipment~~ articles.
— Each package must be capable of withstanding, without damage to the ~~equipment~~ article contained therein and without any reduction of effectiveness, a force applied to the top surface equivalent to the total weight of identical packages stacked to a height of 3 m (including the test sample) for a duration of 24 hours. ~~Large equipment that is offered for transport unpackaged or on pallets is not subject to the requirements for the 3 m stack test capability.~~

Note.— Capability may be demonstrated by testing, assessment or experience.

— Each package must be marked with the battery mark (Figure 5-3). The package must be of such size that there is adequate space to affix the mark on one side without the mark being folded.
  — This requirement does not apply to:
    — packages containing only button cell batteries installed in equipment (including circuit boards); and
    — packages containing no more than four cells or two batteries installed in equipment, where there are not

more than two packages in the consignment.

— Where a consignment includes packages bearing the battery mark (Figure 5-3), the words "lithium ion batteries, in compliance with ~~Section II of~~ PI967~~2~~ must be placed on the air waybill, when an air waybill is used. ~~Where packages of Section II batteries from multiple packing instructions are included on one air waybill, the compliance statement for the different battery types and/or packing instructions may be combined into a single statement provided that the statement identifies the applicable battery type(s) and packing instruction numbers.~~

~~— Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with the functions for which they are responsible.~~

— When packages are placed in an overpack:

a) the packages must be secured within the overpack;

b) the intended function of each package must not be impaired by the overpack; and

c) the battery mark (Figure 5-3) required by this packing instruction must either be clearly visible or the mark must be reproduced on the outside of the overpack and the overpack must be marked with the word "Overpack" in lettering of at least 12 mm high.

Packing Instruction 965

Cargo aircraft only for UN 3480

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Amendments to manage safety risks posed by energy storage device provisions

Paragraph 4.4.3 of DGP-WG/25 report:

IA. **SECTION IA**

Each cell or battery must meet the provisions of 2;9.3.

IA.1 **General requirements**

— Part 4;1 requirements must be met.
— Cells and batteries must be offered for transport at a state of charge not exceeding 30 per cent of their rated capacity. Cells and/or batteries at a state of charge greater than 30 per cent of their rated capacity may only be ~~shipped~~ offered for transport with the approval of the State of Origin and the State of the Operator under the written conditions established by those authorities.

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IB. **SECTION IB**

Cells or batteries prepared in accordance with this section are subject to all of the applicable provisions of these Instructions (including the requirements in paragraph 2 of this packing instruction and of this section) except for the provisions of Part 6.

Cells or batteries shipped in accordance with the provisions of Section IB must be described on a dangerous goods transport document as set in Part 5;4. The packing instruction number “965” required by 5;4.1.5.8.1 a) must be supplemented with “IB”. All other applicable provisions of Part 5;4 apply.

UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 188 (see ST/SG/AC.10/52/Add.1):

Cells and batteries may be offered for transport provided that each cell and battery meets the provisions of 2;9.3 a), e) ~~and~~, g) and h) (if applicable) and the following:

1) for cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;

2) for batteries, the Watt-hour rating is not more than 100 Wh;
— the Watt-hour rating must be marked on the outside of the battery case except for batteries manufactured before 1 January 2009;

Amendments to manage safety risks posed by energy storage device provisions

Paragraph 4.4.3 of DGP-WG/25 report:

IB.1 **General requirements**

— Cells and batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).
— Cells and batteries must be offered for transport at a state of charge not exceeding 30 per cent of their rated capacity. Cells and/or batteries at a state of charge greater than 30 per cent of their rated capacity may only be ~~shipped~~ offered for transport with the approval of the State of Origin and the State of the Operator under the written conditions established by those authorities.

Note.— Guidance and methodology for determining the rated capacity can be found in sub-section 38.3.2.3 of the UN Manual of Tests and Criteria. *Cells and batteries shipped at a reduced state of charge are less prone to thermal runaway.*

Table 965-IB

Contents	*Net quantity per package*	
	Passenger	*Cargo*
Lithium ion cells and batteries	Forbidden	10 kg

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Packing Instruction 966

Passenger and cargo aircraft for UN 3481 (packed with equipment) only

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II. **SECTION II**

Amendments to manage aviation specific risks and address anomalies

Paragraph 4.2.2.5 of DGP-WG/25 report:

Cells and batteries packed with equipment, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

— Part 1;2.3 (General – Transport of dangerous goods by post);
— Part 5;2.4.16 (Shipper's responsibilities – Special marking requirements for lithium batteries or sodium ion batteries);
— Part 7;4.4 (Operator's responsibilities – Reporting of dangerous goods accidents and incidents);
— Part 7;4.5 (Operator's responsibilities – Reporting of undeclared and misdeclared dangerous goods);
— Part 8;1.1 (Provisions concerning passengers and crew – Dangerous goods carried by passengers ~~or~~ and crew); and
— Paragraphs 1 and 2 of this packing instruction.

Amendments to manage safety risks posed by energy storage device provisions

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 188 (see ST/SG/AC.10/52/Add.1):

Cells and batteries may be offered for transport provided that each cell and battery meets the provisions of 2;9.3 a), e) ~~and~~, g) and h) (if applicable) and the following:

1) for cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;

2) for batteries, the Watt-hour rating is not more than 100 Wh;
   – the Watt-hour rating must be marked on the outside case except for batteries manufactured before 1 January 2009.

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Packing Instruction 967

Passenger and cargo aircraft for UN 3481 (contained in equipment) only

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II. **SECTION II**

Amendments to manage aviation specific risks and address anomalies

Paragraph 4.2.2.5 of DGP-WG/25 report:

Cells and batteries contained in equipment, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

- Part 1;2.3 (General – Transport of dangerous goods by post);
- Part 5;2.4.16 (Shipper's responsibilities – Special marking requirements for lithium batteries or sodium ion batteries);
- Part 7;4.4 (Operator's responsibilities – Reporting of dangerous goods accidents and incidents);
- Part 7;4.5 (Operator's responsibilities – Reporting of undeclared and misdeclared dangerous goods);
- Part 8;1.1 (Provisions concerning passengers and crew – Dangerous goods carried by passengers ~~or~~ and crew); and
- Paragraphs 1 and 2 of this packing instruction.

UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 188 (see ST/SG/AC.10/52/Add.1):

Cells and batteries may be offered for transport provided that each cell and battery meets the provisions of 2;9.3 a), e) ~~and~~, g) and h) (if applicable) and the following:

1) for cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;

2) for batteries, the Watt-hour rating is not more than 100 Wh;
   - the Watt-hour rating must be marked on the outside of the battery case except for batteries manufactured before 1 January 2009.

. . .

II.2 **Additional requirements**

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UN harmonization amendments

Paragraph 4.1.2.1.5.1 a) of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 188 (see ST/SG/AC.10/52/Add.1):

- Each package must be marked with the battery mark (Figure 5-3). The package must be of such size that there is adequate space to affix the mark on one side without the mark being folded.
  - This requirement does not apply to:
    - packages containing only button cell batteries installed in equipment (including circuit boards); and
    - packages containing no more than four cells or two batteries installed in equipment, where there are not more than two packages in the consignment.

    Note.— Where the equipment contains one or more button cells in addition to cells or batteries, the button cell or cells do not count toward package or consignment limits.

— Where a consignment includes packages bearing the battery mark (Figure 5-3), the words “lithium ion batteries, in compliance with Section II of PI967” must be placed on the air waybill, when an air waybill is used. Where packages of Section II batteries from multiple packing instructions are included on one air waybill, the compliance statement for the different battery types and/or packing instructions may be combined into a single statement provided that the statement identifies the applicable battery type(s) and packing instruction numbers.
— Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with the functions for which they are responsible.

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Packing Instruction 968

Cargo aircraft only for UN 3090

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IB. **SECTION IB**

Cells or batteries prepared in accordance with this section are subject to all of the applicable provisions of these Instructions (including the requirements in paragraph 2 of this packing instruction and of this section) except for the provisions of Part 6.

Cells or batteries shipped in accordance with the provisions of Section IB must be described on a dangerous goods transport document as set in Part 5;4. The packing instruction number “968” required by 5;4.1.5.8.1 a) must be supplemented with “IB”. All other applicable provisions of Part 5;4 apply.

UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 188 (see ST/SG/AC.10/52/Add.1):

Cells and batteries may be offered for transport provided that each cell and battery meets the provisions of 2;9.3 a), e), f) (if applicable) ~~and~~, g) and h) (if applicable) and the following:

1) for cells, the lithium content is not more than 1 g;
2) for batteries, the aggregate lithium content is not more than 2 g.

IB.1 **General requirements**

Cells and batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

Table 968-IB

Contents	*Net quantity per package*	
	Passenger	*Cargo*
Lithium metal cells and batteries	Forbidden	2.5 kg

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Packing Instruction 969

Passenger and cargo aircraft for UN 3091 (packed with equipment) only

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II. **SECTION II**

Amendments to manage aviation specific risks and address anomalies

Paragraph 4.2.2.5 of DGP-WG/25 report:

Cells and batteries packed with equipment, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

— Part 1;2.3 (General – Transport of dangerous goods by post);
— Part 5;2.4.16 (Shipper's responsibilities – Special marking requirements for lithium batteries or sodium ion batteries);
— Part 7;4.4 (Operator's responsibilities – Reporting of dangerous goods accidents and incidents);
— Part 7;4.5 (Operator's responsibilities – Reporting of undeclared and misdeclared dangerous goods);
— Part 8;1.1 (Provisions concerning passengers and crew – Dangerous goods carried by passengers ~~or~~ and crew); and
— Paragraphs 1 and 2 of this packing instruction.

UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 188 (see ST/SG/AC.10/52/Add.1):

Lithium metal cells and batteries may be offered for transport provided that each cell and battery meets the provisions of 2;9.3 a),e), f) (if applicable) ~~and~~, g) and h) (if applicable) ~~-~~ and the following:

1) for cells, the lithium content is not more than 1 g;
2) for batteries, the aggregate lithium content is not more than 2 g.

Packing Instruction 970

Passenger and cargo aircraft for UN 3091 (contained in equipment) only

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II. **SECTION II**

Amendments to manage aviation specific risks and address anomalies

Paragraph 4.2.2.5 of DGP-WG/25 report:

Cells and batteries contained in equipment, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

— Part 1;2.3 (General – Transport of dangerous goods by post);
— Part 5;2.4.16 (Shipper's responsibilities – Special marking requirements for lithium batteries or sodium ion batteries);
— Part 7;4.4 (Operator's responsibilities – Reporting of dangerous goods accidents and incidents);
— Part 7;4.5 (Operator's responsibilities – Reporting of undeclared and misdeclared dangerous goods);
— Part 8;1.1 (Provisions concerning passengers and crew – Dangerous goods carried by passengers ~~or~~ and crew); and
— Paragraphs 1 and 2 of this packing instruction.

UN harmonization amendments

Paragraph 4.1.2.1 of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 188 (see ST/SG/AC.10/52/Add.1):

Cells and batteries may be offered for transport provided that each cell and battery meets the provisions of 2;9.3 a), e), f) (if applicable) ~~and~~, g) and h) (if applicable) and the following:

1) for cells, the lithium content is not more than 1 g;
2) for batteries, the aggregate lithium content is not more than 2 g.

II.2 **Additional requirements**

. . .

— Each package must be marked with the battery mark (Figure 5-3). The package must be of such size that there is adequate space to affix the mark on one side without the mark being folded.
  — This requirement does not apply to:
    — packages containing only button cell batteries installed in equipment (including circuit boards); and
    — packages containing no more than four cells or two batteries installed in equipment, where there are not more than two packages in the consignment.

UN harmonization amendments

Paragraph 4.1.2.1.5.1 a) of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 188 (see ST/SG/AC.10/52/Add.1):

Note.— Where the equipment contains one or more button cells in addition to cells or batteries, the button cell or cells do not count toward package or consignment limits.

— Where a consignment includes packages bearing the battery mark (Figure 5-3), the words "lithium metal batteries, in compliance with Section II of PI970" must be placed on the air waybill, when an air waybill is used. Where packages of Section II batteries from multiple packing instructions are included on one air waybill, the compliance statement for the different battery types and/or packing instructions may be combined into a single statement provided that the statement identifies the applicable battery type(s) and packing instruction numbers.
— Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with the functions for which they are responsible.

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UN harmonization amendments

Amendments to manage aviation specific risks and address anomalies

DGP-WG/UN Harmonization identified a need to incorporate sodium ion cells and batteries into this packing instruction to align with Part 2;0.6.2 and to add the prohibition from transport of cells or batteries identified as being damage or defective in accordance with Special Provision A154:

Packing Instruction 975

Passenger and cargo aircraft for UN 3548 only

Introduction

This packing instruction is only permitted for articles which do not have an existing proper shipping name and which contain only environmentally hazardous substances where the quantity of the environmentally hazardous substance in the article exceeds 5 L or 5 kg. In addition to the environmentally hazardous substances, the article may also contain lithium metal, lithium ion or sodium ion cells or batteries that comply with Section II of Packing Instruction 967 ~~or~~, Section II of Packing Instruction 970 or Section II of Packing Instruction 978, as applicable. Cells or batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport.

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Packing Instruction 978

Passenger and cargo aircraft only for UN 3552 (contained in equipment) only

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II. SECTION II

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II.2 **Additional requirements**

— The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
— Cells and batteries must be protected so as to prevent short circuits.
— Where multiple pieces of equipment are packed in the same outer packaging, each piece of equipment must be packed to prevent contact with other equipment.
— Each package must be marked with the battery mark (Figure 5-3). The package must be of such size that there is adequate space to affix the mark on one side without the mark being folded.
  — This requirement does not apply to:
    — packages containing only button cell batteries installed in equipment (including circuit boards); and
    — packages containing no more than four cells or two batteries installed in equipment, where there are not more than two packages in the consignment.

UN harmonization amendments

Paragraph 4.1.2.1.5.1 a) of DGP-WG/25 report:

UN Model Regulations, Chapter 3.3, SP 188 (see ST/SG/AC.10/52/Add.1):

Note.— Where the equipment contains one or more button cells in addition to cells or batteries, the button cell or cells do not count toward package or consignment limits.

— Where a consignment includes packages bearing the battery mark (Figure 5-3), the words “sodium ion batteries, in compliance with Section II of PI978” must be placed on the air waybill, when an air waybill is used. Where packages of Section II batteries from multiple packing instructions are included on one air waybill, the compliance statement for the different battery types and/or packing instructions may be combined into a single statement provided that the statement identifies the applicable battery type(s) and packing instruction numbers.
— Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with the functions for which they are responsible.

. . .

— END —