



## NOTA DE ESTUDIO

### GRUPO EXPERTO EN MERCANCÍAS PELIGROSAS (DGP)

#### TRIGÉSIMA REUNIÓN

Montreal, 6 - 10 de octubre de 2025

- Cuestión 1:** Armonización de las disposiciones de la OACI sobre mercancías peligrosas con las Recomendaciones de las Naciones Unidas para el transporte de mercancías peligrosas (*REC-A-DGS-2027*)
- 1.2:** Formular propuestas de enmienda de las *Instrucciones Técnicas para el transporte sin riesgos de mercancías peligrosas por vía aérea* (Doc 9284), si se considera necesario, para su incorporación en la edición de 2027-2028

#### INSTRUCCIONES DE EMBALAJE QUE DEBEN UTILIZARSE PARA ARTÍCULOS CLASIFICADOS COMO “ARTÍCULOS QUE CONTIENEN MERCANCÍAS PELIGROSAS N.E.P.”

(Nota presentada por P. Tatin)

##### RESUMEN

En esta nota de estudio se invita al grupo experto a considerar la posibilidad de aclarar qué instrucciones de embalaje deben aplicarse a las diversas entradas correspondientes a los artículos que contienen mercancías peligrosas, n.e.p. asignados a los números ONU 3537 a 3548.

**Decisión del DGP:** Se invita al DGP a:

- acordar una de las dos opciones propuestas en el apéndice A para resolver las dificultades de determinar qué instrucciones de embalaje se aplican a los artículos asignados a los números ONU 3537 a 3548;
- considerar si las aprobaciones y exenciones relacionadas con las entradas asignadas a los números ONU 3537 a 3548 deberían agruparse en una sola aprobación o exención; y
- considerar si las disposiciones de las partes 2; 0.6.2 y 2; 0.6.5 son contradictorias, como se destaca en el párrafo 3.2 de la presente nota.

\* Solo se han traducido el resumen y el apéndice.

## 1. INTRODUCTION

1.1 This working paper outlines overlaps between various parts of the Technical Instructions and the Supplement with respect to articles containing dangerous goods, which cause confusion when considering which packing instruction and/or conditions for issuing approvals apply. It also outlines overlaps between approval provisions for these articles. The overlaps are described below and identified in Appendix B to this working paper.

## 2. MULTIPLE PACKGING INSTRUCTIONS

2.1 Part 2;0.6 of the Technical Instructions sets out the classification criteria for articles containing dangerous goods as a residue or as an integral element of the machinery or apparatus as either UN 3363 or one of the entries for articles containing dangerous goods (UN numbers 3537 through 3548) in accordance with 2;0.6.1 to 2;0.6.6. All the entries assigned to UN numbers 3537 through 3548 are forbidden for transport on both passenger and cargo aircraft under normal circumstances, but some are permitted through approvals or under specific conditions. This leads to potentially three packing instructions being applicable to a single entry, i.e.:

A specific packing instruction for each class of articles is assigned to entries in the Supplement that can be transported through an approval issued by the States of Origin and the Operator in accordance with Special Provision A2.

Packing Instruction 910 is applicable to some of the articles that are permitted to contain pre-production prototype or low production run lithium or sodium ion cells or batteries that have not been UN design-type tested through an approval issued by the States of Origin and the Operator in accordance with Special Provision A88

Packing Instruction 222 and Packing Instruction 975 are applicable to UN Nos. 3538 and 3548, respectively, when articles identified as forbidden under normal circumstances through Table 3-1 are permitted on both passenger and cargo aircraft under certain circumstances in accordance with Special Provisions A224 for UN 3538 and Special Provision A225 for UN 3548. They may also be transported under an approval in accordance with Special Provision A2 in accordance with Packing Instruction 221 for UN 3538 and Packing Instruction 973 for UN 3548.

The packing instructions and special provisions assigned to all the entries for dangerous goods contained in articles, along with the basic classification criteria for them, are shown in Appendix A to this working paper.

2.2 Although all dangerous goods that are integrated into a machine or device that are necessary for its operation and cannot be removed for transport must be notified on the dangerous goods transport document (shipper's declaration) with reference to Part 5;4.1.5.1 c), the machine or device should be packaged in accordance with one and only one packing instruction that aligns with the requirements associated with the predominant hazard of the dangerous goods.

## 3. MULTIPLE APPROVAL/EXEMPTION PROVISIONS

3.1 Entries assigned to UN numbers 3537 through 3548 may be subject to more than one approval or exemption provision, i.e. Special Provision A2 to transport articles permitted on cargo aircraft through an approval granted by the States of Origin and the Operator, Special Provision A88 to transport articles containing pre-production prototype or low production run sodium ion or lithium cells or batteries through an approval granted by the States of Origin and the Operator, and Special Provision A333, where the articles can only be transported under an exemption. It is suggested that all should be grouped into a single approval or exemption.

3.2 In also suggested that Part 2;0.6.2, which states that “the requirements of Special Provision A88 apply” and Part 2;0.6.5 which states that “if dangerous goods classified as Class 9 are contained within the article, all other dangerous goods present in the article must be considered to present a higher hazard” are contradictory.

#### 4. **ACTION BY THE DGP**

4.1 The DGP is invited to:

- a) agree to one of the two options proposed in Appendix A to address challenges with determining which packing instruction applies to articles assigned to UN numbers 3537 through 3548;
- b) consider whether approvals and exemptions related to entries assigned to UN numbers 3537 through 3548 should be grouped into a single approval or exemption; and
- c) consider whether the provisions in Parts 2;0.6.2 and 2;0.6.5 are contradictory, as highlighted in paragraph 3.2 of this working paper.

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## APÉNDICE A

### PROPUESTA DE ENMIENDA DE LAS INSTRUCCIONES TÉCNICAS

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OPCIÓN 1: Enmendar 2;0.6.2

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#### Parte 2

### CLASIFICACIÓN DE MERCANCÍAS PELIGROSAS

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#### 6. CLASIFICACIÓN DE ARTÍCULOS COMO ARTÍCULOS QUE CONTIENEN MERCANCÍAS PELIGROSAS N.E.P.

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6.2 Esos artículos pueden contener también pilas o baterías. Las pilas y baterías de litio que formen parte integrante del artículo deben ser de un tipo que se haya demostrado que cumple los requisitos en materia de ensayos del *Manual de Pruebas y Criterios* de las Naciones Unidas, parte III, subsección 38.3. Los artículos que contengan prototipos de preproducción de pilas o baterías de litio transportados para ser sometidos a ensayo y los artículos que contengan pilas o baterías de litio de series de producción de un máximo de 100 pilas o baterías, estarán sujetos a las prescripciones de la disposición especial A88. Independientemente de la Instrucción de embalaje 910, se debe dar prioridad a la instrucción de embalaje asignada al artículo en la tabla S-3-1 del Suplemento.

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OPCIÓN 2: Enmendar la disposición especial A88

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#### Parte 3

### LISTA DE MERCANCÍAS PELIGROSAS, DISPOSICIONES ESPECIALES Y CANTIDADES LIMITADAS Y EXCEPTUADAS

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#### Capítulo 3

#### DISPOSICIONES ESPECIALES

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Tabla 3-2. Disposiciones especiales

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A88 Los prototipos de preproducción de baterías o pilas de litio o pilas o baterías de ion sodio, cuando estos prototipos se transportan para ser sometidos a ensayo, o las baterías o pilas de litio o de ion sodio que se producen en pequeñas cantidades (es decir, producción anual máxima de 100 baterías o pilas de litio o pilas o baterías de ion sodio) que no se hayan sometido a ensayo conforme a los requisitos de la parte III, subsección 38.3 del *Manual de Pruebas y Criterios* de las Naciones Unidas pueden transportarse en aeronaves de carga con la aprobación de la autoridad competente del Estado de origen y del Estado del explotador y si se cumplen los requisitos ~~de la instrucción de embalaje 910 del Suplemento de la instrucción de embalaje pertinente. Se aplican las siguientes instrucciones de embalaje:~~

- Instrucción de embalaje 910 del Suplemento para ONU 3090, ONU 3091, ONU 3480, ONU 3481, ONU 3551 y ONU 3552; e
- Instrucciones de embalaje asignadas a las entradas de la tabla S-3-1 del Suplemento para ONU 3537 a ONU 3548.

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## APPENDIX B

### DA

| UN No. | Name                                                                                               | Special provisions (those higher than A299 are contained in the Supplement only) | Criteria                                                                                                                                                                                                                                                                                             | Table 3-1                    |                     | Table S-3-1                  |                     |
|--------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------|------------------------------|---------------------|
|        |                                                                                                    |                                                                                  |                                                                                                                                                                                                                                                                                                      | Passenger and cargo aircraft | Cargo aircraft only | Passenger and cargo aircraft | Cargo aircraft only |
| 3363   | <b>Dangerous goods in apparatus or Dangerous goods in articles or Dangerous goods in machinery</b> | A48<br>A107<br>A332                                                              | Must meet the provisions of Packing Instruction 962 (maximum 0.5 L/1 kg/0.5 for gas (Division 2.2 only)<br><br>Through A107, can exceed these limits if permitted in limited quantities, within limits established by UN Model Regulations, through an approval of the States of Origin and Operator | See 962                      | See 962             | See 962                      | See 962             |

| UN No. | Name                                                      | Special provisions (those higher than A299 are contained in the Supplement only) | Criteria                                                                                                                                                                                                                                     | Table 3-1                                                                                      |                                                                                                | Table S-3-1                                                                                    |                                                                                                                                                                                                          |
|--------|-----------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                           |                                                                                  |                                                                                                                                                                                                                                              | Passenger and cargo aircraft                                                                   | Cargo aircraft only                                                                            | Passenger and cargo aircraft                                                                   | Cargo aircraft only                                                                                                                                                                                      |
| 3537   | Articles containing flammable gas, n.o.s.*                | A2<br>A88                                                                        | In accordance with 2;0.6.1 to 2;0.6.6<br><br>May contain lithium batteries meeting UN 38.3 testing. Exception from UN 38.3 testing for pre-production prototypes or production runs 100 or less cells or batteries if in accordance with A88 | Forbidden                                                                                      | Forbidden                                                                                      | Forbidden                                                                                      | 221, 910<br><br>221 under A2 approval<br><br>910 under A88 approval                                                                                                                                      |
| 3538   | Articles containing non-flammable, non toxic gas, n.o.s.* | A2<br>A88<br>A225<br>A333<br>A335                                                | May contain lithium cells or batteries complying with Section II of Packing Instruction 967 or 970                                                                                                                                           | Forbidden except through application of A225 packed in accordance with Packing Instruction 222 | Forbidden except through application of A225 packed in accordance with Packing Instruction 222 | Forbidden except through application of A225 packed in accordance with Packing Instruction 222 | 221, 222, 910:<br><br>221 under A2 approval<br><br>222 through application of A225 (no approval needed)<br><br>910 under A88 approval<br><br>In some cases approval not permitted, only exemption (A333) |
| 3539   | Articles containing toxic gas, n.o.s.*                    | A333                                                                             |                                                                                                                                                                                                                                              | Forbidden                                                                                      | Forbidden                                                                                      | Forbidden                                                                                      | Forbidden                                                                                                                                                                                                |

| UN No. | Name                                                                                     | Special provisions (those higher than A299 are contained in the Supplement only) | Criteria | Table 3-1                    |                     | Table S-3-1                  |                                                                                                                                        |
|--------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------|------------------------------|---------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                          |                                                                                  |          | Passenger and cargo aircraft | Cargo aircraft only | Passenger and cargo aircraft | Cargo aircraft only                                                                                                                    |
| 3540   | Articles containing flammable liquid, n.o.s.*                                            | A2<br>A88<br>A333                                                                |          | Forbidden                    | Forbidden           | Forbidden                    | 378, 910<br><br>378 under A2 approval<br><br>910 under A88 approval<br><br>In some cases approval not permitted, only exemption (A333) |
| 3541   | Articles containing flammable solid, n.o.s.*                                             | A2<br>A88<br>A333                                                                |          | Forbidden                    | Forbidden           | Forbidden                    | 400, 910<br><br>400 under A2 approval<br><br>910 under A88 approval<br><br>In some cases approval not permitted, only exemption (A333) |
| 3542   | Articles containing a substance liable to spontaneous combustion, n.o.s.*                | A333                                                                             |          | Forbidden                    | Forbidden           | Forbidden                    | Can only be transported under an exemption (A333)                                                                                      |
| 3543   | Articles containing a substance which emits flammable gas in contact with water, n.o.s.* | A333                                                                             |          | Forbidden                    | Forbidden           | Forbidden                    | Can only be transported under an exemption (A333)                                                                                      |
| 3544   | Articles containing oxidizing substance, n.o.s.*                                         | A333                                                                             |          | Forbidden                    | Forbidden           | Forbidden                    | Can only be transported under an exemption (A333)                                                                                      |



| UN No. | Name                                                       | Special provisions (those higher than A299 are contained in the Supplement only) | Criteria                                                                                           | Table 3-1                                                                                      |                                                                                                | Table S-3-1                                                                                    |                                                                                                                                      |
|--------|------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                            |                                                                                  |                                                                                                    | Passenger and cargo aircraft                                                                   | Cargo aircraft only                                                                            | Passenger and cargo aircraft                                                                   | Cargo aircraft only                                                                                                                  |
| 3545   | Articles containing organic peroxide, n.o.s.*              | A333                                                                             |                                                                                                    | Forbidden                                                                                      | Forbidden                                                                                      | Forbidden                                                                                      | Can only be transported under an exemption (A333)                                                                                    |
| 3546   | Articles containing toxic substance, n.o.s.*               | A2<br>A88                                                                        |                                                                                                    | Forbidden                                                                                      | Forbidden                                                                                      | Forbidden                                                                                      | 600, 910<br><br>600 under A2 approval<br><br>910 under A88 approval                                                                  |
| 3547   | Articles containing corrosive substance, n.o.s.*           | A2<br>A88                                                                        |                                                                                                    | Forbidden                                                                                      | Forbidden                                                                                      | Forbidden                                                                                      | 877, 910<br><br>877 under A2 approval<br><br>910 under A88 approval                                                                  |
| 3548   | Articles containing miscellaneous dangerous goods, n.o.s.* | A2<br>A88<br>A224                                                                | May contain lithium cells or batteries complying with Section II of Packing Instruction 967 or 970 | Forbidden except through application of A224 packed in accordance with Packing Instruction 975 | Forbidden except through application of A224 packed in accordance with Packing Instruction 975 | Forbidden except through application of A224 packed in accordance with Packing Instruction 975 | 973, 910, 975<br><br>973 under A2 approval<br><br>910 under A88 approval<br><br>975 through application of A224 (no approval needed) |