



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)  
WORKING GROUP MEETING (DGP-WG/17)**

**Montreal, 24 to 28 April 2017**

**Agenda Item 3: Development of recommendations for amendments to the *Supplement to the Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284SU) for incorporation in the 2019-2020 Edition**

**DRAFT AMENDMENTS TO THE SUPPLEMENT TO THE TECHNICAL INSTRUCTIONS TO  
ALIGN WITH THE UN RECOMMENDATIONS**

(Presented by the Secretary)

**SUMMARY**

This working paper contains draft amendments to the Supplement to the Technical Instructions to 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 eighth session (Geneva, 9 December 2016).

**Action by the DGP-WG:** The DGP-WG is invited to agree to the draft amendments in this working paper.

## Part S-3

# DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND QUANTITY LIMITATIONS

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### Chapter 6

#### SPECIAL PROVISIONS

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##### Table S-3-4. Special Provisions

*Supplementary special provisions*

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UN Model Regulations, Chapter 3.3, Special Provision 271 (see ST/SG/AC.10/44/Add.1)

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A317	Lactose or glucose or similar materials, may be used as a phlegmatizer provided that the substance contains not less than 90 per cent, by mass, of phlegmatizer. The appropriate national authority may authorize these mixtures to be classified in Division 4.1 on the basis of a Series 6(c) test on at least three packages as prepared for transport. Mixtures containing at least 98 per cent, by mass, of phlegmatizer are not subject to these Instructions. Packages containing mixtures with not less than 90 per cent, by mass, of phlegmatizer need not bear a "Toxic" subsidiary <del>risk</del> <u>hazard</u> label.
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## Part S-4

# PACKING INSTRUCTIONS

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UN Model Regulations, Chapter 4.1.4.1, packing instruction P910 (see ST/SG/AC.10/44/Add.1)

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### Packing Instruction 910

Cargo aircraft only

#### Introduction

This instruction applies to UN Nos. 3090, 3091, 3480 and 3481 production runs consisting of not more than 100 cells ~~and~~ or batteries and to pre-production prototypes of cells ~~and~~ or batteries when these prototypes are transported for testing.

#### General requirements

Part 4, Chapter 1 requirements must be met.

#### ADDITIONAL PACKING REQUIREMENTS

- Packagings must meet the Packing Group I performance requirements.
- Cells and batteries must be protected against short circuit. Protection against short circuits includes, but is not limited to:
  - individual protection of the battery terminals;
  - inner packaging to prevent contact between cells and batteries;
  - batteries with recessed terminals designed to protect against short circuits; or
  - the use of an electrically non-conductive and non-combustible cushioning material to fill empty space between the cells or batteries in the packaging.

*Cells and batteries, including when packed with equipment*

- 1) Batteries and cells, including equipment, of different sizes, shapes or masses must be packaged in an outer packaging of a tested design type listed below provided the total gross mass of the package does not exceed the gross mass for which the design type has been tested;
- 2) Each cell or battery must be individually packed in an inner packaging and placed inside an outer packaging;
- 3) Each inner packaging must be completely surrounded by sufficient non-combustible and electrically non-conductive thermal insulation material to protect against a dangerous evolution of heat;
- 4) Appropriate measures must be taken to minimize the effects of vibration and shocks and prevent movement of the cells or batteries within the package that may lead to damage and a dangerous condition during transport. Cushioning material that is non-combustible and electrically non-conductive may be used to meet this requirement;
- 5) Non-combustibility must be assessed according to a standard recognized in the State where the packaging is designed or manufactured;
- 6) A cell or battery with a net mass of more than 30 kg must be limited to one cell or battery per outer packaging.

## Packing Instruction 910

### *Cells and batteries contained in equipment*

- 1) Equipment of different sizes, shapes or masses must be packed in an outer packaging of a tested design type listed below provided the total gross mass of the package does not exceed the gross mass for which the design type has been tested;
- 2) The equipment must be constructed or packaged in such a manner as to prevent accidental operation during transport;
- 3) Appropriate measures must be taken to minimize the effects of vibration and shocks and prevent movement of the equipment within the package that may lead to damage and a dangerous condition during transport. When cushioning material is used to meet this requirement it must be non-combustible and electrically non-conductive; and
- 4) Non-combustibility must be assessed according to a standard recognized in the State where the packaging is designed or manufactured.

### *Equipment or batteries not subject to Part 6 of these Instructions*

Lithium batteries with a mass of 12 kg or greater and having a strong, impact-resistant outer casing, or assemblies of such batteries, may be packed in strong outer packagings or protective enclosures not subject to the requirements of Part 6 of these Instructions under conditions specified by the appropriate national authority. Additional conditions that may be considered in the approval process include, but are not limited to:

- 1) The equipment or the battery must be strong enough to withstand the shocks and loadings normally encountered during transport, including trans-shipment between cargo transport units and between cargo transport units and warehouses as well as any removal from a pallet for subsequent manual or mechanical handling; and
- 2) The equipment or the battery must be fixed in cradles or crates or other handling devices in such a way that it will not become loose during normal conditions of transport.

### **OUTER PACKAGINGS**

#### *Boxes*

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