



## 危险物品专家组 (DGP)

### 第二十八次会议

2021 年 11 月 15 日至 19 日，虚拟会议

- 议程项目 1: 国际民航组织危险物品的规定与联合国《关于危险货物运输的建议书》的协调统一 (编号: REC-A-DGS-2023)
- 1.2: 如有必要, 拟定对《危险物品安全航空运输技术细则》(Doc 9284 号文件) 的修订提案, 以便纳入 2023 年—2024 年版
- 1.3: 如有必要, 拟定对《危险物品安全航空运输技术细则补篇》(Doc 9284SU 号文件) 的修订提案, 以便纳入 2023 年—2024 年版

### 对危险物品专家组与联合国协调统一工作组提交的 危险物品专家组第二十八次会议 有关与联合国协调统一的工作文件的审查

(由危险物品专家组与联合国协调统一工作组报告员提交)

#### 摘要

本工作文件建议修改关于与联合国协调统一的工作文件所载的拟议修订, 以处理危险物品专家组与联合国协调统一工作组 (DGP-WG/UN 协调统一) 查明的不一致的情况。

**危险物品专家组的行动:** 请危险物品专家组审议修改以下内容:

- a) 根据本工作文件附录 A (第 2 部分)、附录 B (第 5 部分) 和附录 C (第 6 部分) 所示, 对 DGP/28-WP/12 号文件、DGP/28-WP/15 号文件和 DGP/28-WP/16 号文件所载《技术细则》第 2 部分、第 5 部分和第 6 部分的拟议修订;
- b) 根据本工作文件附录 D 所示, 对 DGP/28-WP/19 号文件所载《补篇》的拟议修订。

## 1. INTRODUCTION

1.1 The DGP Working Group on UN Harmonization (DGP-WG/UN Harmonization) has continued to review the changes proposed to the Technical Instructions arising from the revisions to the 22<sup>nd</sup> revised edition of the UN Model Regulations, which resulted in the content of working papers DGP/28-WP/11 to DGP/28-WP/16 and DGP/28-WP/19 and DGP/28-WP/21.

1.2 This review was to address questions raised by the Secretariat in DGP/28-WP/16 as well as other concerns that had been identified by members of the DGP-WG/UN Harmonization but that had not been resolved before the deadline for the working papers for DGP/28.

1.3 This working paper identifies the specific issues that have been identified and the proposals to resolve those issues.

### 1.4 **DGP/28-WP/12 — Draft Amendments to Part 2 of the Technical Instructions.**

1.4.1 During the review of the changes to the 22<sup>nd</sup> revised edition of the UN Model Regulations it was identified that the UN Subcommittee had adopted text into paragraph 2.5.3.2.4 (equivalent to Part 2;5.3.2.4) that identified that organic peroxides not listed in the equivalent to Table 2-7 in the UN Model Regulations but that are listed in packing instruction IBC520 may also be transported in packages as per packing instruction P520 in the UN Model Regulations.

1.4.2 As dangerous goods are not permitted in intermediate bulk containers in air transport, this change was not applied to Part 2;5.3.2.4. What has taken time though is for a review of all the organic peroxides listed in packing instruction IBC520 against the organic peroxides listed in Table 2-7 to determine if there are entries in IBC520 that do not appear in Table 2-7. This review identified that there is one organic peroxide, 3,6,9-Triethyl-3,6,9-trimethyl-1,4,7 triperoxonane in a concentration not exceeding 27 per cent with not less than 83 per cent diluent type A, which is assigned to UN 3109. It is therefore proposed that this entry be added to Table 2-7 as shown with yellow-highlighted text in Appendix A to this working paper.

### 1.5 **DGP/28-WP/15 — Draft Amendments to Part 6 of the Technical Instructions**

1.5.1 Included in the changes proposed to Part 5 is the addition of “Note 2” under the lithium battery mark, Figure 5-3, to adopt the text from the UN Model Regulations for a transitional period until 31 December 2026 during which time the mark shown in the 2021-2022 edition of the Technical Instructions may continue to be applied.

1.5.2 It is proposed to add this note and to retain the existing note as “Note 1”. The existing note under Figure 5-3 was added by the DGP to facilitate the transition from the rectangular mark that was in place prior to 1 January 2021. The DGP-WG-UN Harmonization is of the view that having both notes would create confusion and as there will have been two years of use of the square lithium battery mark, that Note 1 shown in DGP/28-WP/15 should be deleted as shown with yellow-highlighted text in Appendix B to this working paper.

### 1.6 **DGP/28-WP/16 — Draft Amendments to Part 6 of the Technical Instructions**

1.6.1 This working paper contains a number of questions from the Secretariat on the changes proposed for adoption from the UN Model Regulations. There is also instances of text shown in square brackets that require the panel to decide if the text should be adopted as shown.

1.6.2 DGP-WG/UN Harmonization considered the questions and the text shown in square brackets. The consensus of the DGP-WG-UN Harmonization is as follows:

- a) Note at the end of the definitions in paragraph 5.2.5.1.1. The note identifies that the term “pressure receptacle”, when used refers to the specific terms shown and it is questioned whether given that the Technical Instructions always refers to “cylinder”, “cylinder shell” and “inner vessel of closed cryogenic receptacle” if the note is needed. The DGP-WG-UN Harmonization believes that the note is not needed and can be deleted.
- b) In paragraph 5.2.5.1.2 there are two sets of square brackets. The first are around “cylinders and closed cryogenic receptacles”, the second are around “cylinders”. The DGP-WG-UN Harmonization believes that the first set of square brackets should be removed, and the text adopted as shown. For the second the view of the WG is that the text should correctly be “cylinders and closed cryogenic receptacles” based on what is addressed by paragraph 5.4.1.3.
- c) There is a question above subparagraph b) of 5.2.5.1.2 asking if this subparagraph should be shown as “not used”? The WG supports that as bundles of cylinders are not permitted in air transport and provisions addressing bundles of cylinders are not included in the Technical Instructions.
- d) There is a question asking if the heading to the new paragraph 5.2.11 should be “Marking of closures for refillable UN cylinders and closed cryogenic receptacles”? The WG agrees that the heading should be amended as proposed. This is consistent with the wording of the heading of paragraph 5.2.7 in which reference is made to the new paragraph 5.2.11.

Revisions to address the above are shown as yellow-highlighted text in Appendix C to this working paper.

## 1.7 **DGP/28-WP/19 — Draft Amendments to the Supplement to the Technical Instructions**

1.7.1 This working paper proposes changes to the Supplement to the Technical Instructions, in part because the changes to the UN Model Regulations would apply to dangerous goods that may be transported only under an approval or exemption.

1.7.2 Included in the changes proposed to the Supplement is a change to add additional text into Packing Instruction 200 in Special packing provision “z”. The new text identifies that cylinders containing pyrophoric gases or flammable gases containing more than 1 per cent pyrophoric compounds that special packing provision “q” must be met.

1.7.3 In reviewing packing instruction P200 in the UN Model Regulations it was identified that special packing provision “q” is assigned to UN 2192 — Germane, UN 2199 — Phosphine and UN 2203 — Silane. These three gases are not listed in Packing instruction 200 in the Supplement. UN 2192 and UN 2199, being toxic gases, are assigned to Packing Instruction 210 in the Supplement. UN 2203 — Silane while being shown in Table S-3-1 as having Packing Instruction 200 assigned is not listed in the packing instruction. In addition, special packing provision “q” is also not included in Packing Instruction 200 in the Supplement.

1.7.4 For these reasons DGP-WG/UN-Harmonization is of the opinion that at this time the additional text should not be adopted into special packing provision “z” and deleted from the proposed text in DGP/28-WP/19 as shown with yellow-highlighted text in Appendix D to this working paper. It is believed that there is more work that should be undertaken over the next biennium by DGP-WG/Supplement with DGP-WG/UN Harmonization to resolve these issues, which may require a comprehensive review of the provisions for toxic gases to ensure that the provisions in packing instruction P200 from the UN Model Regulations are adequately addressed by provisions in the Supplement.

## 2. ACTION BY THE DGP

2.1 The DGP is invited to consider the revisions to:

- a) the proposed amendments to Parts 2, 5 and 6 of the Technical Instructions contained in DGP/28-WPs/12, 15 and 16 as shown in Appendix A (Part 2), Appendix B (Part 5) and Appendix C (Part 6) to this working paper; and
- b) the proposed amendments to the Supplement contained in DGP/28-WP/19 as shown in Appendix D to this working paper.

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## 附录 A

### 对 DGP/28-WP/12 号文件的拟议修改

对 DGP/28-WP/12 号文件所载拟议修订的修改采用黄色标出

## 第 2 部分

### 危险物品的分类

#### 第 5 章

#### 第 5 类 氧化性物质；有机过氧化物

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表 2-7 包装中目前划定的有机过氧化物名表

注：拟运输的过氧化物必须符合下表所列的分类和控制温度与危急温度（根据自加速分解温度（SADT）算出）。

有机过氧化物	浓度 (%)	A 型		B 型		控制 温度 (°C)	危急 温度 (°C)	UN 类属 条目	次要危险 性和备注
		稀释剂 (%)	稀释剂 (%)	惰性 固体 (%)	水 (%)				
《联合国规章范本》2.5.3.2.4（见 ST/SG/AC.10/48/Add.1）									
Acetyl acetone peroxide 过氧化乙酰丙酮	≤42	≥48			≥8			3105	2
Acetyl acetone peroxide 过氧化乙酰丙酮	≤35	≥57			≥8			3107	32
tert-Butylperoxy isopropylcarbonate 过氧异丙基碳酸叔丁酯	≤77	≥23						3103	
1-(2-tert-Butylperoxy isopropyl)-3- isopropenylbenzene 1-(2-叔丁基过氧异丙基)-3-异丙烯 基苯	≤77	≥23						3105	
tert-Butylperoxy isopropylcarbonate 过氧异丙基碳酸叔丁酯	≤62		≥38					3105	
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tert-Hexyl Peroxypivalate 过新戊酸叔己酯	≤72		≥28			+10	+15	3115	



## 附录 B

### 对 DGP/28-WP/15 号文件的拟议修改

#### 第 5 部分

#### 托运人的责任

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对 DGP/28-WP/15 号文件所载拟议修订的修改采用黄色标出

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图 5-3 锂电池标记

注 1: 2019-2020 版《技术细则》图 5-3 中用最小尺寸 120 mm×110 mm 所示的标记可以继续使用。

注 2: 在 2021-2022 版《技术细则》图 5-3 中所示的标记可继续适用至 2026 年 12 月 31 日。

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## 附录 C

### 对 DGP/28-WP/16 号文件的拟议修改

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对 DGP/28-WP/16 号文件所载拟议修订的修改采用黄色标出

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## 第6部分

### 包装术语、标记、要求和试验

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#### 5.2.5.1.1 定义

在本节中：

合格评定系统：国家有关当局通过气瓶和密闭式低温容器设计类型核准、制造商的质量保证系统核准和检查单位核准，对制造商进行核准的系统。

设计类型：特定气瓶和密闭式低温容器标准规定的气瓶和密闭式低温容器设计。

核实：通过检验或提供客观证据证实规定的要求得到满足。

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DGP-WG/21 报告的第 3.1.2.9.1 a) 段（有待考虑：技术细则特指气瓶、气瓶壳体和密闭低温容器的内容容器。技术细则中是否需要这个注？）：

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~~注：在本分节中，当使用单独评估时，压力贮器一词应酌情指压力贮器、压力贮器壳体、密闭低温容器的内容容器或封闭装置。~~

5.2.5.1.2 气瓶和密闭式低温容器的合格评估必须采用 5.2.5 的要求。第 5.1.4.3 段详细说明了气瓶和密闭低温容器的哪些部分可以单独进行合格评估。不过，在下列情况下，可用主管部门规定的要求取代 5.2.5 的要求：

a) 封闭装置的合格评估；

b) 气瓶捆包整套组件的合格评估，前提是气瓶壳体已按照 5.2.5 的要求进行合格评估，~~和未使用。~~

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DGP-WG/21 报告第 3.1.2.9 段：

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c) 密闭低温容器整套组件的合格评估，前提是内容容器已按照 5.2.5 的要求进行合格评估。

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5.2.11 可再充装的联合国气瓶和密闭低温容器封闭装置的标记

5.2.11.1 对于封闭装置，必须清楚、易辨读地作出以下永久标记（如打印、雕刻或蚀刻）：

- a) 制造商的识别标记；
- b) 设计标准或设计标准名称；
- c) 制造日期（年月或年和星期）
- d) 负责首次检查和试验的检查机构的识别标记（如适用）。

5.2.11.2 当阀门的试验压力小于阀门充装接头额定值所示试验压力时，必须予以标记。

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## 附录 D

### 对 DGP/28-WP/19 号文件的拟议修改

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对 DGP/28-WP/19 号文件所载拟议修订的修改采用黄色标出

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## 第 S-4 部分

### 包装说明

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## 第 4 章

### 第 2 类 — 气体

#### 包装说明 200

气瓶必须符合 4;1.1 和 4;4.1.1 的一般包装要求。

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6) “特殊包装规定”：

材料相容性

- a) 禁止使用铝合金气瓶。
- b) 禁止使用铜阀。
- c) 与内装物接触的金属部位的含铜量不得超过 65%。
- d) 当使用钢瓶或带钢衬里的复合气瓶时，只允许使用依照 6;5.2.7.4 p) 带有“H”标记的钢瓶。

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- z) 气瓶和附件的制造材料必须与内装物性质相容，且不得与其发生反应形成有害或危险的化合物。

试验压力和充气率必须按照包装说明 200 的相关要求计算。

**气瓶装有发火气体或装有易燃气体混合物，其中所含的发火化合物大于 1%，必须符合特殊包装规定“q”的要求。**

运输过程中必须采取必要措施防止危险性反应（例如聚合或分解）。如果必要的话，可以要求加入稳定剂或抑制剂。

注：维持水生动物生命的氧气运输，见本部分前注 7。

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