



WORKING PAPER

危险物品专家组 (DGP)

第二十五次会议

2015年10月19日至30日，蒙特利尔

议程项目 2: 拟定对《危险物品安全航空运输技术细则》 (Doc 9284号文件) 的修订建议，以便纳入2017年—2018年版

**修改包装说明952
以处理以电池为动力的小型车辆**

(由D. Brennan提交)

摘要

本工作文件建议修改包装说明952，以处理以电池为动力的小型车辆。

危险物品专家组的行动: 请危险物品专家组根据本工作文件附录B所示，修订包装说明952。

1. INTRODUCTION

1.1 The structure and content of Packing Instruction 952, which applies to UN 3171, **Battery-powered equipment** and **Battery-powered vehicles** is based on the assumption that the vehicles and equipment are large and robust enough not to require being placed in a packaging as there are no requirements or provisions in Packing Instruction 952 for the equipment or vehicle to be in an outer packaging.

1.2 However, there are now many small lithium battery-powered vehicles that unless packaged are subject to damage during transport; examples of these are small gyro stabilised unicycles and underwater propulsion units, see Appendix A for images.

1.3 All of the items shown meet the definition of a vehicle as stated in Special Provision A21, which reads: “vehicles are self-propelled apparatus designed to carry one or more persons or goods. Examples of such vehicles are electrically-powered cars, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles, trucks, locomotives, bicycles (pedal cycles with an electric motor) and other vehicles of this type (e.g. self-balancing vehicles or vehicles not equipped with at least one seating position)...”.

1.4 In addition, the UN Subcommittee adopted a change to Special Provision 240 that recognised that vehicles may have to be shipped in a packaging and that some parts of the vehicle, including the battery may be detached from the vehicle when being shipped. This change is being proposed for adoption into Special Provision A21, see DGP/25-WP/13.

1.5 The change adopted by the UN Subcommittee is as follows: “...This includes vehicles transported in a packaging. In this case some parts of the vehicle may be detached from its frame to fit into the packaging.”.

1.6 To address these specific issues, and to ensure that lithium battery-powered vehicles in particular are protected from damage during transport, it is proposed to adopted some specific text into Packing Instruction 952 to require the vehicle to be placed in a strong, rigid outer packaging if the vehicle can be handled in other than an upright orientation.

1.7 The standard approach adopted for the packing instructions for articles in the Technical Instructions is to require the use of strong outer packagings. However, lithium ion batteries with a Watt-hour rating exceeding 100 Wh, when shipped as **Lithium ion batteries** (UN 3480) must be in UN specification packagings, or in the case of **Lithium ion batteries packed with equipment** (UN 3481) either the battery or the battery and equipment must in UN specification packagings. The DGP is therefore invited to consider whether a lithium ion battery which has been removed from a vehicle should be required to be packed in a UN specification packaging.

1.8 The DGP may also wish to consider if the change from the UN to Special Provision A21 should be adopted into the Technical Instructions or whether it should be required that all batteries must be secured within the vehicle?

2. ACTION BY THE DGP

2.1 The DGP is invited to revise Packing Instruction 952 as shown in Appendix B to this working paper.

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APPENDIX A

SMALL GYRO STABILISED UNICYCLES AND UNDERWATER PROPULSION UNITS



附录B

对《技术细则》第4部分的拟议修订

第4部分

包装说明

第11章

第9类 — 杂项危险物品

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包装说明952

仅限于UN 3171的客机和货机运输
(参见包装说明950 — 以易燃液体为燃料的车辆和发动机, 或
包装说明951 — 以易燃气体为燃料的车辆和发动机)

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补充包装要求

本条目适用于以湿电池、钠电池或锂电池为动力的车辆及设备, 并且在运输时这些电池是安装在这些车辆和设备上的, 除非车辆以锂电池或钠电池为动力但以拆散的状态进行运输。在将车辆拆散运输时, 必须将锂电池或钠电池包装在以下所示的牢固坚硬外包装内【联合国规范的外包装】。例如: 电动的车、割草机、轮椅及其他移动辅助设备。车辆如果也装有内燃机, 必须酌情划入UN 3166 Vehicle (flammable gas powered) (易燃气体为动力的车辆) (参见包装说明951) 或Vehicle (flammable liquid powered) (易燃液体为动力的车辆) (参见包装说明950)。

必须标明车辆的朝向以防止不慎泄漏危险物品。在可以采取直立状态以外的其他方式搬运时, 必须将车辆固定在以下类型的牢固坚硬外包装内。必须以能够在外包装内对车辆进行束缚的方式固定车辆, 以防止运输过程中出现改变朝向或造成车辆损坏的任何移动。

电池驱动的车辆、机器或设备必须满足下列要求:

电池

所有电池都必须牢固地安装和固定在车辆、机器或设备的电池盒中, 并采取保护措施防止损坏和短路。此外:

- 1) 如果安装的是非防漏型电池, 并且车辆、机器或设备有可能被置于一种使电池无法保持其原有朝向的状态时, 则必须将电池拆下, 并酌情按照包装说明492或870进行包装;
- 2) 如果车辆安装的是锂电池, 则除非得到始发国有关当局另行批准, 这些电池必须满足2.9.3的规定, 除非另有规定, 否则必须将其锂电池牢固地固定在车辆内, 必须采取保护措施防止损坏和短路; 和
- 3) 如果安装的是钠电池, 它们必须符合特殊规定A94的要求。

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其他作业设备

- ≠ 1) 车辆、机器或设备运行或安全所需的危险物品，例如灭火器、轮胎充气罐、或安全装置，必须妥善地安装在车辆、机器或设备中。航空器也可装有本属于危险物品但是按照有关的适航要求和操作规程安装在航空器上的其他物品和物质。如果安装了救生筏、紧急撤离滑道和其他充气装置，必须采取保护措施确保它们不会意外启动。装配有表3-1中确认的禁止以客机运输的危险物品的车辆只可以用货机运输。允许运输的危险物品的备件不得按本包装说明进行运输。
- 2) 装有防盗装置、无线电通信设备或导航系统的车辆必须使这些装置、设备或系统处于无法工作状态。

[与车辆包装在一起的锂离子电池或钠电池的外包装（见6:3.1）]箱

铝（4B）
纤维板（4G）
天然木（4C1，4C2）
其他金属（4N）
塑料（4H1，4H2）
胶合板（4D）
再生木（4F）
钢（4A）

桶

铝（1B2）
纤维（1G）
其他金属（1N2）
塑料（1H2）
胶合板（1D）
钢（1A2）

方桶

铝（3B2）
塑料（3H2）
钢（3A2）

车辆的坚固外包装箱

铝
纤维板
天然木
其他金属
塑料
胶合板
再生木
钢

桶

铝
纤维
其他金属
塑料
胶合板
钢

方桶

铝
塑料
钢

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