



Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

Sixtieth session

Geneva, 27 June-6 July 2022

Item 6 (d) of the provisional agenda

Miscellaneous proposals for amendments to the

**Model Regulations on the Transport of Dangerous Goods:
other miscellaneous proposals**

Amendment to 2.0.5.2 – Classification of articles containing prototype or small production run lithium batteries

Submitted by the International Air Transport Association (IATA)*

Introduction

1. At the fifty-eighth session of the Sub-Committee a document was presented (ST/SG/AC.10/C.3/2021/23) on the classification of articles containing dangerous goods, not otherwise specified. The document identified that the examples provided for articles containing untested lithium cells or batteries implied that it was the articles that were prototype or small production run, as follows:

“(e.g. for pre-production prototype articles containing lithium batteries or for a small production run, consisting of not more than 100 such articles)”

2. The document presented two options. The first option proposed to remove any allowance for untested lithium cells or batteries in these articles and the second to amend the text of 2.0.5.2 to clarify that it was the lithium cells or batteries that were prototype or small production run, with consequential amendments proposed to special provision 310 and to packing instruction P006 to address the requirements for articles containing prototype and small production run lithium batteries.

3. In the discussion of the proposals, there was general agreement for the intent of the second proposal but that the detailed amendments needed further work.

4. Following discussions with many experts and advisors this document proposes to amend paragraph 2.0.5.2. to clarify that articles may contain lithium batteries when then these batteries are of a type that has not passed the applicable tests of subsection 38.3 of the Manual of Tests and Criteria but that the articles may only be shipped in accordance with the provisions in special provision 310.

* A/75/6 (Sect.20), para. 20.51

5. Consequential amendments are then proposed to the dangerous goods list to add “310” against the UN numbers for articles containing dangerous goods, n.o.s. and to special provision 310 to include specific reference to those UN numbers and then to amend packing instructions P006 and LP03 to include the relevant provisions from packing instruction P910 and LP905.

6. In developing this working document, it was identified that special provision 363, which is assigned to UN Nos. 3528, 3529 and 3530 and special provision 388, which is assigned to UN Nos. 3166 and 3171 contain the following provision:

“However, lithium batteries shall meet the provisions of 2.9.4, except that 2.9.4 (a) does not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in (machinery or engines) (vehicles or equipment).”

7. This text makes no mention of the pre-production prototype batteries only being those shipped for testing and no indication that there are any additional requirements that should apply when these untested batteries are installed into an engine, machine or vehicle. This is notwithstanding that if the same untested battery is assigned to UN 3480 or UN 3481 that the provisions of packing instructions P910 or LP905 apply. In addition, the reference to “equipment” in special provision 388 is incorrect and should be deleted.

8. To address this believed oversight, Proposal 2 below shows the amendments offered to special provisions 363 and 388 to make reference to the prototype batteries being shipped when the engine, machine or vehicle, as applicable, is being transported for testing.

9. Also, in Proposal 2 the Sub-Committee is invited to consider if specific requirements should be included where engines, machines or vehicles contain prototype or small production run lithium batteries.

Proposal 1

10. The Sub-Committee is invited to amend 2.0.5.2 to clearly identify that it is the lithium cells or batteries that are small production run or pre-production prototype and not the articles and for reference to special provision 310 to be included, as follows (new text is underlined deleted text is strikethrough):

“2.0.5.2 Such articles may in addition contain batteries. Lithium batteries [~~or sodium ion batteries~~] that are integral to the article shall be of a type proven to meet the testing requirements of the Manual of Tests and Criteria, part III, sub-section 38.3, ~~except when otherwise specified by these Regulations (e.g. for~~ For articles containing pre-production prototype articles containing lithium cells or batteries transported for testing or for articles containing lithium cells or batteries manufactured for a small in production runs, consisting of not more than 100 such articles cells or batteries, the requirements of special provision 310 shall apply.”

11. A consequential amendment to special provision 310 should read as follows:

“310 The testing requirements in the Manual of Tests and Criteria, part III sub-section 38.3 do not apply to production runs, consisting of not more than 100 cells or batteries, or to pre-production prototypes of cells or batteries when these prototypes are transported for testing when packaged in accordance with packing instruction P910 of 4.1.4.1 or LP905 of 4.1.4.3, as applicable. Articles (UN Nos. 3537, 3538, 3540, 3541, 3546, 3547 or 3548) may contain such cells or batteries provided that the applicable parts of packing instruction P006 of 4.1.4.1 or LP03 of 4.1.4.3, as applicable, are met.

The transport document shall include the following statement: “Transport in accordance with special provision 310”.

...”

12. For the dangerous goods list in Chapter 3.2, assign “310” in column (6) to UN Nos. 3537, 3538, 3540, 3541, 3546, 3547 and 3548.

13. Consequential amendments are proposed to packing instructions P006 and LP03 by the addition of the following new paragraphs:

P006

“(5) Articles containing pre-production prototype lithium cells or batteries or production runs or not more than 100 lithium cells or batteries that are of a type that have not met the testing requirements of part III, sub-section 38.3 of the Manual of Tests and Criteria, part III sub-section 38.3 shall in addition meet the following:

(a) Packagings shall conform to the requirements in paragraph (1) of this packing instruction;

(b) Appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the article within the package that may lead to damage and a dangerous condition during transport. When cushioning material is used to meet this requirement it shall be non-combustible and electrically non-conductive;

(c) Non-combustibility of the cushioning material shall be assessed according to a standard recognized in the country where the packaging is designed or manufactured;

(d) The article may be transported unpackaged under conditions specified by the competent authority. Additional conditions that may be considered in the approval process include, but are not limited to:

i. The article shall be strong enough to withstand the shocks and loadings normally encountered during transport, including transshipment 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

ii. The article shall 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.”

LP03

“(4) Articles containing pre-production prototype lithium cells or batteries or production runs or not more than 100 lithium cells or batteries that are of a type that have not met the testing requirements of part III, sub-section 38.3 of the Manual of Tests and Criteria, part III sub-section 38.3 shall in addition meet the following:

(a) Packagings shall conform to the requirements in paragraph (1) of this packing instruction;

(b) Appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the article within the package that may lead to damage and a dangerous condition during transport. When cushioning material is used to meet this requirement it shall be non-combustible and electrically non-conductive;

(c) Non-combustibility of the cushioning material shall be assessed according to a standard recognized in the country where the packaging is designed or manufactured.”

Proposal 2

14. The Sub-Committee is invited to amend special provisions 363 and 388 as follows (new text is underlined deleted text is strikethrough):

“363 This entry may only be used when the conditions of this special provision are met. No other requirements of these Regulations apply.

...

(f) Engines or machinery may contain other dangerous goods than fuels (e.g. batteries, fire extinguishers, compressed gas accumulators or safety devices) required for their functioning or safe operation without being subject to any additional requirements for these other dangerous goods, unless otherwise specified in these Regulations. However, lithium batteries shall meet the provisions of 2.9.4, except that 2.9.4 (a) does not apply when ~~pre-production prototype batteries or~~ batteries of a ~~small~~ production run, consisting of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are transported for testing, are installed in machinery or engines.

Where a lithium battery installed in a machinery or an engine is damaged or defective, the machinery or engine shall be transported as defined by the competent authority.

...

388 UN No. 3166 entries apply to vehicles powered by flammable liquid or gas internal combustion engines or fuel cells.

...

Dangerous goods, such as batteries, airbags, fire extinguishers, compressed gas accumulators, safety devices and other integral components of the vehicle that are necessary for the operation of the vehicle or for the safety of its operator or passengers, shall be securely installed in the vehicle and are not otherwise subject to these Regulations. However, lithium batteries shall meet the provisions of 2.9.4, except that 2.9.4 (a) does not apply when ~~pre-production prototype batteries or~~ batteries of a ~~small~~ production run, consisting of not more than 100 batteries, or pre-production prototypes of batteries when these prototypes are transported for testing, are installed in vehicles ~~or equipment~~.

Where a lithium battery installed in a vehicle ~~or equipment~~ is damaged or defective, the vehicle ~~or equipment~~ shall be transported as defined by the competent authority.”
