

**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

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Item 3 of the provisional agenda

**Listing, classification and packing**

**Proposal to allow articles classified as UN 3363 to contain  
lithium batteries complying with special provision 188**

**Transmitted by the expert from China**

**I. Introduction**

1. With the rise of e-commerce, recent years have witnessed a revolutionary change in the global transport of consumer products. Over the past few decades, consumer goods are dominantly shipped in business-to-business mode, but a pronounced trend of business-to-consumer transport has been aware in recent years. Because of needs to be delivered directly to consumers, product design tends to be more and more consumer-friendly. In the meantime, with the development of lithium batteries, the relatively low cost and very high energy density makes them widely used in all kinds of commodities. Two factors mutually contribute to an increase in the number of consigned dangerous goods that contain both lithium batteries and other dangerous goods.

2. These articles cannot be classified as UN 3363, considering that lithium cells and batteries themselves are allowed to be transported in neither limited quantities nor excepted quantities. Yet, the containment of other dangerous goods are not permitted for UN 3481 or UN 3091. According the current provisions in the *Model Regulations*, these products can be assigned to one of the 12 entries from UN 3537 to UN 3548, as appropriate. However, the 12 entries are forbidden for air transport in ICAO *Technical Instructions*, and can only be transported with the permission from competent authorities, which would certainly be a barrier to the further development of e-commerce. Moreover, the intention of this Sub-Committee to set up these entries is to address the transport of those articles containing large amounts of dangerous goods, but these consumer products are generally articles containing a few small cells or batteries and small quantities of other dangerous goods. It seems not very reasonable to conflate the two types of articles with each other.

3. The absence of clear regulatory guidance brings difficulties to the transport of such goods and has led to undeclaring or mis-declaring by some consignors. In the section “Principles Underlying the Regulation of the Transport of Dangerous Goods”, it

is clearly stated that regulations should be framed so as not to impede the movement of such goods, other than those too dangerous to be accepted for transport. There is no evidence yet to prove that such consumer products with small amounts of solid or liquid dangerous goods and small cells or batteries, which are enclosed separately, are too dangerous to be accepted for transport. Thus, this Sub-Committee should consider to modify the existing regulations in the light of the exigencies of modern transport systems, so that the transport of such products can become smoother while still safe. Experts from China believe that this moment would be the best time to discuss this issue.

4. At the sixty-third session of this Sub-Committee, China submitted document ST/SG/AC.10/C.3/2023/54 with a series of questions. Taking into account of comments received, we now come back with a possible way forward for the Sub-Committee's consideration, i.e. to allow articles classified as UN 3363 to contain lithium batteries complying with special provision (SP) 188.

## II. Proposal 1

5. Amend SP301 assigned to UN 3363 as follows, allowing the classification of UN3363 for articles containing lithium cells or batteries complying with SP188, except for those contain lithium cells or batteries only (new text **bold and underlined**):

“301 This entry only applies to articles such as machinery, apparatus or devices containing dangerous goods as a residue or an integral element of the articles. It shall not be used for articles for which a proper shipping name already exists in the Dangerous Goods List of chapter 3.2. Articles transported under this entry shall only contain dangerous goods which are authorized to be transported in accordance with the provisions of chapter 3.4 (Limited quantities) **and lithium cells or batteries that:**

- (a) **provide electrical power for operation of the article;**
- (b) **cannot be removed for transport by design; and**
- (c) **meet the requirements of special provision 188 a) to c), e) and f).**

The quantity of dangerous goods **other than lithium cells or batteries** in articles shall not exceed the quantity specified in Column 7a of the Dangerous Goods List of chapter 3.2 for each item of dangerous goods contained.

**In case that the articles contain lithium cells or batteries, the packages shall meet additional requirements as follows:**

- (a) ~~The total gross mass of each package shall not exceed 30 kg; and~~
- (b) **Each package shall be capable of withstanding a 1.2 m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of content.**

If the articles contain more than one item of dangerous goods, the individual dangerous goods shall be enclosed to prevent them reacting dangerously with one another during transport (see 4.1.1.6). When it is required to ensure liquid dangerous goods remain in their intended orientation, orientation arrows shall be displayed on at least two opposite vertical sides with the arrows pointing in the correct direction in accordance with 5.2.1.7.1

**Articles containing no other dangerous goods than lithium cells or batteries shall not be transported under this entry.**

The competent authority may exempt from regulation articles which would otherwise be transported under this entry.”

### **III. Justification**

6. UN 3363 now requires that the quantity of dangerous goods inside articles shall not exceed the limited quantity (LQ) specified in Column 7a. However, LQ itself is a very special concept in dangerous goods transport regulations, which is an exemption from certain provisions of the regulations by mitigating the potential risks through measures such as reducing quantity and strengthening packages, and is intermediate between dangerous goods that are subject to all part of the regulations and goods that are fully not restricted.

7. Certain amount of entries have been assigned an LQ of 0 in Column 7a of the Dangerous Goods List of Chapter 3.2. If we conduct an analysis on each of these entries, they can be divided into two groups: those that are not allowed to be transported under LQ because of their great danger, such as UN 2031 “NITRIC ACID, other than red fuming, with more than 70 % nitric acid”, and some articles, for which the assignment of LQ is meaningless because their hazard is assessed on the base of a whole object, such as lithium batteries. The same 0 in Column 7a has different meanings for these two groups of entries.

8. In the *Model Regulations*, SP188 is assigned to the four entries for lithium batteries, UN 3090, UN 3091, UN 3480 and UN 3481. In essence, the logic behind SP188 is to exempt lithium batteries from some provisions in the regulations through mitigating the potential risk by restricting the rated capacity, limiting the quantity and giving specific packing requirements. The intent of this special provision is highly compatible with that of LQ for substances. Experts from China believe that allowing articles containing also lithium cells or batteries complying with SP 188 to be classified under UN 3363 does not violate the principle that UN 3363 only permits the inclusion of dangerous goods with small risk and is consistent with the purpose of facilitating global transport of goods. Thus, we propose to allow articles containing both lithium

cells or batteries complying with SP188 and other dangerous goods within the limit of LQ to be classified under UN 3363, by amending SP301, as shown in paragraph 5 above.

9. Until now, except for ICAO *Technical Instructions* for air transport, segregation of lithium batteries from dangerous goods of other classes or divisions is not required by the regulations of other mode of transport. And, SP301 has prescribed that individual dangerous goods in the article shall be enclosed to prevent them reacting dangerously with one another during transport. No additional risks can be foreseen by allowing articles assigned to UN 3363 to contain lithium cells or batteries complying with SP188.

10. Besides SP188, experts from China believe that these lithium cells or batteries should meeting two more requirements, that they should provide power only to the article which they are installed in and that they cannot be removed for transport by design. The former one is set to exclude those articles designed to provide power external to itself, which should be characterise as batteries instead of equipment. The latter is set because, during last session, a number of delegates from European countries mentioned that it is now stipulated in the European Union legislation that lithium batteries in consumer products must be designed to be removable, and therefore suggests that removal of lithium batteries for transport be made mandatory. This can indeed better ensure safety. However, with the absence of such a requirement in most other jurisdictions, there are still a huge amount of products with non-removable batteries that need to be transported. It is such products that our document is aimed at. For those that can be dismantled, it should be encouraged to remove the lithium batteries from the articles for transport.

11. Although no additional risks have been foreseen, the experts from China still propose to add some additional restrictions to the packages containing such articles with lithium cells or batteries, given that there is little experience in transporting such articles under UN3363 at this stage. We propose to introduce a 1.2 m drop test, referring to the test requirement in ICAO *Technical Instructions* for LQ packages and that in SP188 for packages containing batteries not installed in equipment. We also propose to limit the gross mass of packages to 30 kg in accordance with the requirements for LQ packages in section 3.4.2 of the *Model Regulations*. These requirements are introduced out of caution, and can perhaps be gradually relaxed, if sufficient safety level has been proved by future practice.

#### **IV. Proposal 2**

12. Add a new row at the end of Packing Instruction P907, to read:

**Additional requirements:**

All dangerous goods contained within the articles shall be secured to prevent inadvertent movement and lithium cells or batteries (Class 9) shall be disconnected or electrically isolated and secured to prevent any spillage of liquid.

**V. Justification**

13. Life saving appliances covered by UN 2990 and UN 3072 in the Regulations are actually devices containing both lithium batteries and other dangerous goods, which are similar to articles describe in this document to some degree. The proposed new text refers to relevant contents in Packing Instruction P905 applicable to these two entries.

**VI. Sustainable Development Goals**

14. The proposed amendments would greatly facilitate the transport of newly-designed lithium battery consumer products, promote future development and innovation in e-commerce, which can contribute to Sustainable Development Goal 9 “*Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation*”.

**VII. Request to the Sub-Committee**

15. We kindly invite members of this Sub-Committee to provide us with their comments on this document. And, if delegates are not ready to share their views, because of late submission of this document, we welcome comments to be sent to [chengdh@mail.castc.org.cn](mailto:chengdh@mail.castc.org.cn); [zr@ghs.cn](mailto:zr@ghs.cn). The experts from China will consider feedbacks received and come back with another document in the future.