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**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

Thirty-second session  
Geneva, 3-12 (a.m.) December 2007  
Item 3 of the provisional agenda

LISTING, CLASSIFICATION AND PACKING

Reclassification of UN3090 and UN3091, Lithium Metal Batteries

Transmitted by the International Federation of Air Line Pilots Associations (IFALPA) <sup>\*/</sup>

1. At its thirtieth session, the Sub-Committee adopted an IFALPA proposal for new entries for lithium ion batteries and lithium ion batteries packed in or with equipment. The remaining entries for lithium batteries are UN3090 and UN3091, which now apply to lithium metal batteries and lithium metal batteries packed in or with equipment. These batteries are currently classified as Class 9.

2. Lithium metal batteries contain metallic lithium, a division 4.3 substance. Lithium batteries were removed from division 4.3 and placed in Class 9 on the basis that the lithium was encased in the battery, and that the article no longer met the division 4.3 classification criteria. The primary hazard was believed to be from an electrical short circuit.

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<sup>\*/</sup> In accordance with the programme of work of the Sub-Committee for 2007-2008 approved by the Committee at its third session (refer to ST/SG/AC.10/C.3/60, para. 100 and ST/SG/AC.10/34, para. 14) (classification).

3. Subsequent incident data has shown, however, that the characteristics of the lithium metal contained in the battery may present themselves during an emergency. Although many incidents begin through short circuit, the resulting fire exhibits the characteristics of a burning metal. The danger is therefore not only electrical, but the same chemical danger as a fire involving metallic lithium. In 1999, a fire involving lithium metal batteries occurred at the Los Angeles Airport. Subsequent testing of lithium metal batteries by the United States' Federal Aviation Association's Office of Aviation Research found that when involved in a fire, lithium metal batteries would release burning electrolyte and a molten lithium spray. Furthermore, the fire exhibited the qualities of a lithium metal fire and was unresponsive to Halon 1301, a common fire suppressant.

4. IFALPA believes lithium metal batteries should be classified based on the presence of lithium metal in the battery. Much as other commodities are still classified according to their classification criteria when contained in sealed inner packagings and strong outer packagings, lithium metal batteries should be classified according to the metallic lithium present in the battery, regardless of the shielding provided by the battery. IFALPA therefore proposes that lithium metal batteries and lithium metal batteries packed in or with equipment be reclassified according to division 4.3.

5. One of the prime reasons for the classification and labelling of dangerous goods is to appropriately inform emergency response personnel of the dangers involved in responding to an incident involving those goods. A fire involving a pallet of lithium metal batteries will behave with similarities to a lithium metal fire. It is therefore more accurate to inform emergency response personnel that the incident involves a division 4.3 material than it would be to state that it was a Class 9 material.

### **Proposal**

6. IFALPA proposes to amend the Column entries in the Chapter 3.2 Dangerous Goods list for UN3090 and UN3091 from Class 9 to division 4.3.

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