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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**
(Twentieth session, 3-12 December 2001,
agenda item 10)

**MISCELLANEOUS AMENDMENTS TO THE MODEL REGULATIONS
ON THE TRANSPORT OF DANGEROUS GOODS**

Transport of hybrid electric vehicles

Transmitted by the Expert from the United States of America

Background

1. Vehicles known as “hybrid electric vehicles” are now commercially available. These vehicles are powered by both an internal combustion engine and an electric battery, with the engine also serving to recharge the battery during periods of reduced propulsion power demand. The current entry for “BATTERY-POWERED VEHICLE” (UN 3171) applies to vehicles powered by all types of batteries (i.e., wet batteries, sodium batteries or lithium batteries, see Special Provision 240). Special Provision 106 assigned to that entry specifically excepts such battery-powered vehicles from regulation unless transported by aircraft. Thus, battery-powered vehicles are not regulated for transport by road, rail or vessel. On the other hand, vehicles powered by internal combustion engines are covered by the entry “ENGINES, INTERNAL COMBUSTION, including when fitted in machinery or vehicles” (UN 3166), and, according to Special Provision 106, are also excepted from regulation when transported by road, rail or vessel. However, it is unclear whether hybrid electric vehicles powered both by an internal combustion engine and a battery (or batteries) are included under either of these entries, and that such vehicles, similarly, are excepted from regulation when transported by other than aircraft.

3. The expert from the United States of America believes that the applicability of the UN Model Regulations to hybrid electric vehicles should be clarified by adding a new special provision to the entry "ENGINES, INTERNAL COMBUSTION,..." (UN 3166) clearly stating that hybrid electric vehicles are included under that entry. The existing Special Provision 106 assigned to UN 3166 would then make clear that hybrid electric vehicles are subject to the provisions of the Model Regulation only when transported by aircraft. The wording of the proposed new special provision would be based on that of existing Special Provision 240, applicable to vehicles powered only by batteries. Special Provision 240 would be amended to clarify that hybrid electric vehicles should be transported under the entry UN 3166, Vehicle (flammable gas powered)" or "Vehicle (flammable liquid powered)", as appropriate.

Proposal

4. It is proposed that a reference to a new Special Provision "3XY" be inserted in column 6 in the Dangerous Goods List entry for "ENGINES, INTERNAL COMBUSTION, including when fitted in machinery or vehicles" (UN 3166), and that a new Special Provision 3XY be added in Chapter 3.3 to read:

"3XY This entry includes hybrid electric vehicles powered by both an internal combustion engine and wet, sodium or lithium batteries, transported with the battery(ies) installed. Vehicles that also contain an internal combustion engine must be consigned under the entry "Vehicle (flammable gas powered)" or "Vehicle (flammable liquid powered)", as appropriate."

5. It is proposed to amend SP 240 by adding the following text:

"Hybrid electric vehicles powered by both an internal combustion engine and wet, sodium or lithium batteries, transported with the battery(ies) installed shall be consigned under the entry "Vehicle (flammable gas powered)" or "Vehicle (flammable liquid powered)", UN 3166 as appropriate."
