



Secretariat

Distr.  
GENERAL

ST/SG/AC.10/C.3/2008/72  
8 September 2008

Original: ENGLISH

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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-fourth session  
Geneva, 1-9 December 2008  
Item 4 of the provisional agenda

**LISTING, CLASSIFICATION AND PACKING**

UN 3166, engine internal combustion or vehicle, flammable gas powered or,  
vehicle, flammable liquid powered

Transmitted by the US Fuel Cell Council (USFCC)<sup>1</sup>

**Background**

1. At its 33<sup>rd</sup> session held in July 2008, the Sub-Committee of Experts on the Transport of Dangerous Goods tentatively agreed to:

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<sup>1</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).

- (a) In section 3.2.2 (dangerous goods list), amend the proper shipping name for UN 3166 as follows (revised text is underlined):

3166	ENGINE, INTERNAL COMBUSTION or VEHICLE, FLAMMABLE GAS POWERED or VEHICLE, FLAMMABLE LIQUID POWERED or <u>FUEL CELL ENGINE, or VEHICLE, FUEL CELL POWERED WITH FLAMMABLE GAS or VEHICLE, FUEL CELL POWERED WITH FLAMMABLE LIQUID</u>	9			106 312	0	E0	NONE			
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- (b) In section 3.3.1, special provision 312 was amended as underlined below:

312 Vehicles which contain an internal combustion engine shall be consigned under the entries UN 3166 VEHICLE, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FLAMMABLE LIQUID POWERED as appropriate. These entries include hybrid electric vehicles powered by both an internal combustion engine; and wet batteries, sodium batteries or lithium batteries, transported with the battery(ies) installed.

Vehicles or machinery powered by a fuel cell engine shall be consigned under the entries UN 3166 VEHICLE, FUEL CELL POWERED WITH FLAMMABLE GAS or UN 3166 VEHICLE, FUEL CELL POWERED WITH FLAMMABLE LIQUID as appropriate. These entries include hybrid electric vehicles containing both a fuel cell and an internal combustion engine and wet batteries, sodium batteries or lithium batteries, transported with the battery(ies) installed.

2. Since the Sub-Committee meeting in July, it has become clear that the approved wording may cause some confusion and this paper proposes to amend the listings to alleviate any possible confusion:

- (a) The amended wording of the proper shipping name for UN 3166 may be confusing since fuel cell engines may also have associated fuel tanks and fuel. In order to be consistent with modal listings for UN 3166, a change is proposed here to harmonize the UN 3166 proper shipping names with the existing ICAO listing for UN 3166 and make it clear that a fuel cell engine may also have associated fuel tanks and fuel;
- (b) In addition, special provision 312 is misleading in one respect. In its second paragraph, it indicates that machinery such as a generator powered by a fuel cell should be consigned for transport as a “Vehicle, fuel cell powered ...” although such a piece of machinery is not a vehicle and the appropriate proper shipping name “Fuel cell engine” already exists in section 3.2.2 as indicated above.

**Proposal**

3. It is proposed to amend the Proper Shipping Name for UN 3166 as follows:

(a) In section 3.2.2 (dangerous goods list), revise the existing name for UN 3166 as follows (additions are underlined):

3166	ENGINE, INTERNAL COMBUSTION or VEHICLE, FLAMMABLE GAS POWERED or VEHICLE, FLAMMABLE LIQUID POWERED or ENGINE, FUEL CELL, <u>FLAMMABLE GAS POWERED or ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED or VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED</u>	9			106 312	0	E0	NONE			
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(b) In chapter 3.3, amend the existing SP 312 as indicated below. Underlined text is proposed to be added:

“312 Vehicles which contain an internal combustion engine shall be consigned under the entries UN 3166 VEHICLE, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FLAMMABLE LIQUID POWERED as appropriate. These entries include hybrid electric vehicles powered by both an internal combustion engine; and wet batteries, sodium batteries or lithium batteries, transported with the battery(ies) installed.

Vehicles or machinery powered by a fuel cell engine shall be consigned under the entries VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED, or ENGINE, FUEL CELL, FLAMMABLE GAS POWERED or ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED as appropriate. These entries include hybrid electric vehicles containing both a fuel cell and an internal combustion engine and wet batteries, sodium batteries or lithium batteries, transported with the battery(ies) installed.

(c) The Sub-Committee may wish to shorten the proper shipping name (for consistency) as follows:

“ENGINE, FUEL CELL or INTERNAL COMBUSTION or VEHICLE, FUEL CELL or INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or FLAMMABLE LIQUID POWERED”.

This would cover the following possibilities:

ENGINE, FUEL CELL, FLAMMABLE GAS POWERED  
ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED  
ENGINE, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED  
ENGINE, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED  
VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED  
VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED  
VEHICLE, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED  
VEHICLE, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED

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