



**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****Forty fourth session**

Geneva, 25 November -4 December 2013

Item 5 (a) of the provisional agenda

**Miscellaneous proposals for amendments to the Model Regulations
on the Transport of Dangerous Goods: fuels in machinery or equipment****Fuels in machinery and equipment (SP363/UN3166)****Transmitted by the Dangerous Goods Advisory Council (DGAC)¹****Introduction**

1. At its 43rd session, on the basis of ST/SG/AC.10/C.3/2013/22, the Sub-Committee considered the potential for confusion introduced in adopting SP363 in the case of machinery powered by an internal combustion engine which has historically been transported under UN3166. An informal group met at the 43rd session and the Sub-Committee agreed that the work should proceed through a correspondence group led by DGAC.
2. To provide a basis for the correspondence group, DGAC prepared a discussion paper reproduced as informal document INF.7.
3. To date there has been limited communication among those in the correspondence group (DGAC has only received comments from experts from Switzerland and Germany), owing to the limited amount of time available considering the document submission deadline and the summer holiday season. DGAC is hopeful correspondence group discussion will continue up until the Sub-Committee reconvenes in November. This paper is being provided to inform the Sub-Committee of the efforts thus far.

¹ In accordance with the programme of work of the Sub-Committee for 2013–2014 approved by the Committee at its sixth session (see ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

Discussion

4. It is clear that at present there is a lack of uniformity among the various regulations that regulate machinery powered by an internal combustion engine. Consistent with its mandate, the Sub-Committee should strive to develop an internationally harmonized approach regarding the classification of machinery powered by an internal combustion engine. While there is no clear consensus among those who have commented to date, DGAC recommends certain conclusions to streamline further discussion.

5. **Conclusion 1. Machinery powered by an internal combustion engine containing some amount of fuel is regulated under UN3166**, at least in the case of machinery where small amounts of fuel are present. While it is not entirely clear in the UN Model Regulations, the ICAO TI, the IMDG Code, the DOT regulations currently all regulate this type of machinery under UN 3166. All would seem to agree that this is the case when limited amounts of fuel are involved. A point of contention is whether some threshold fuel amount should result in reclassification of machinery as class 3 under a fuel entry (e.g., UN1202). The use of UN3166 for machinery could be clarified by including new alternative shipping names to UN 3166, including MACHINERY, FLAMMABLE GAS POWERED or MACHINERY, FLAMMABLE LIQUID POWERED, MACHINERY, FUEL CELL, FLAMMABLE GAS POWERED or MACHINERY, FUEL CELL, FLAMMABLE LIQUID POWERED.

6. **Conclusion 2. Hazard communication should be required when the amount of fuel present in a fuel tank exceeds a certain amount.** The presence of the fuel should be communicated through labels, placards and shipping papers. What threshold quantities should be used to trigger hazard communication requirements and whether the machinery should be reclassified as the fuel present are still outstanding issues. The current UN SP363 quantities (limited quantity amounts) would seem inappropriate and new threshold quantities yet to be determined should be adopted.

7. **Conclusion 3. UN3363 should not be used for machinery powered by an internal combustion engine.** SP301 applicable to 3363 says in the second sentence, "It [UN3363] shall not be used for machinery or apparatus for which a proper shipping name already exists in the Dangerous Goods list of chapter 3.2." Since UN3166 exists in the DGL and is the relevant shipping name for machinery powered by an internal combustion engine, UN3363 is not applicable. The above sentence in SP301 could be clarified by adding to the end, "(e.g., UN 3166)."

8. **Potential noncontroversial amendment.** The regulations that use UN3166 all address other dangerous goods that might be included (e.g., fire extinguishers, wet batteries, lithium batteries). It would seem appropriate to include a new special provision against UN 3166 addressing the other dangerous goods as discussed in the attached discussion paper (item F).

9. If the above conclusions were agreed upon, selection of one of three alternative approaches would be key to reaching a comprehensive solution. The alternatives along with points of consideration would be as follows:

Alternative1. Machinery that is transported as Class 9 under UN 3166 would be reclassified as the fuel (e.g., UN1202) once a certain threshold fuel amount is reached? Issues include:

- It is unprecedented for a classification to change based on the quantity of dangerous goods.

- What fuel quantity limit should be used given that different thresholds are used by the various regulations (i.e., only very small amounts are even allowed under ICAO whereas as much as 450L of diesel could be exempted under an IMDG Code E&T decision)?
- For regulations (e.g., the IMDG Code) which regulate both vehicles and machinery under UN3166, would it be logical to reclassify machinery as a fuel (e.g., UN1202) when vehicles under UN3166 which may also contain large quantities of fuel (e.g., 450L in the case of a highway truck tractor, higher for other large vehicles) would remain in UN3166?
- Does the presence of a large fuel amount always justify reclassification to a class 3 fuel entry? Would this be appropriate when, for example, the machinery also includes a large lithium ion battery (e.g., hybrid systems)?

Alternative 2. Machinery would be retained as UN 3166 irrespective of the fuel quantity but class 3 hazard communication would be provided once certain threshold quantities are reached (e.g., 200L). Issues include:

- Class 3 labels/placards on an item assigned to class 9 would be unprecedented.
- Uniform fuel quantities would need to be agreed upon.

Alternative 3. Machinery with an amount of fuel exceeding certain limits would be transported under two shipping descriptions – UN3166 and the UN number of the fuel. This would be similar to a combination package with two or more dangerous goods.

10. DGAC is hopeful that through continuing discussion by the correspondence group, as well as, discussions at the upcoming Subcommittee meeting a consensus will develop allowing for a comprehensive proposal.
