



---

**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****Fifty-fourth session**

Geneva, 26 November-4 December 2018

Item 2 (a) of the provisional agenda

**Recommendations made by the Sub-Committee on its fifty-first,  
fifty-second and fifty-third sessions and pending issues:****review of draft amendments already adopted during the biennium****Removal of packing group I for UN 1390 Alkali metal amides****Transmitted by the expert from the United States of America\*****Background**

1. At the fifty-second session in December 2017, the Sub-Committee agreed to add a packing group (PG) I entry to the Dangerous Goods List for UN 1390 "Alkali metal amides" based on data obtained through conducting the N.5 test method on sodium amide. Historically the Dangerous Goods List only included a PG II entry for this specific dangerous good. This decision was taken based on information found in document ST/SG/AC.10/C.3/2017/38 and is reflected under the Chapter 3.2 amendments in Annex II of ST/SG/AC.10/C.3/104/Add.1.

2. Alkali metal amides are assigned to Division 4.3 materials that are defined as *Substances, which in contact with water emit flammable gases*. The chemical reaction between these substances and water produces ammonia and metal hydroxide; see (1). The flammability range of ammonia at ambient conditions does not meet the criteria for flammable gases in 2.2.2.1, as there is no ignitability of ammonia when mixed in a concentration of 13% or less with air and the range spans less than 12 percentage points (16.5-27.2%).<sup>1</sup>



---

\* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, para. 14).

<sup>1</sup> Harris, G. F. P.; MacDermott, P. E. Flammability and Explosibility of Ammonia. In *Hazards VI: IChemE Symposium Series*; 1977; Vol. 49, p 29037.

3. As the gases resulting from the introduction of water to alkali metal amides are not considered “flammable gases” per the defining criteria in 2.2.2.1, the rate of gas evolution is irrelevant for classification purposes. The assignment of this entry to packing group II is more in line with the conditions of special provision 279 or 23. Special provision 279 indicates that a substance is assigned to this classification or packing group based on human experience rather than the strict application of classification criteria, and special provision 23 (assigned to UN 3318 “Ammonia solution”) which notes that this substance has a flammability hazard, but only exhibits such hazard under fire conditions in confined areas.

## **Proposal**

4. It is proposed to remove the PG I entry for UN 1390, “Alkali metal amides” from the dangerous goods list as Annex II to be adopted at the fifty-second session (see ST/SG/AC.10/C.3/104/Add.1 and the consolidated list of amendments to the 20<sup>th</sup> revised edition of the Model Regulations in ST/SG/AC.10/C.3/2018/65).

---