



Secretariat

Distr.
GENERAL

ST/SG/AC.10/C.3/2009/3
16 March 2009

Original: ENGLISH

**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-fifth session
Geneva, 22–26 June 2009
Item 4 of the provisional agenda

ELECTRIC STORAGE SYSTEMS

UN 3028, Batteries, dry, containing potassium hydroxide, solid

Note by the secretariat¹

1. During the 2007-2008 biennium, the Sub-Committee discussed in length problems related to the carriage of household batteries containing potassium hydroxide, notably nickel-metal hydride batteries.
2. The issue was raised following a sea-transport accident involving a freight container loaded with AA-type nickel-metal hydride rechargeable dry batteries exposed to high temperature due to storage next to the machinery spaces of their ship.
3. It was discussed at the 32nd session of the Sub-Committee on the basis of document ST/SG/AC.10/C.3/2007/45 (Germany) and informal documents INF.31 (Germany) and INF.39 (RECHARGE) (see ST/SG/AC.10/C.3/64, paras 19-23); at the 33rd session on the basis of document ST/SG/AC.10/C.3/2008/37 (Germany) and informal documents INF.21 (VOHMA)

¹ In accordance with the programme of work of the Sub-Committee for 2009-2010 approved by the Committee at its fourth session (refer to ST/SG/AC.10/C.3/68, para. 118(c) and ST/SG/AC.10/36, para. 14).

and INF.41 (PRBA, RECHARGE, EPBA) (see ST/SG/AC.10/C.3/66, paras 40-41); and at the 34th session on the basis of documents ST/SG/AC.10/C.3/2008/70 (VOHMA) and informal documents INF.11 (PRBA, RECHARGE, BAJ) (see ST/SG/AC.10/C.3/68, paras 31-35).

4. Although the discussions did not lead to any change to the current Model Regulations, they showed clearly that there were misunderstandings as regards the interpretation of the scope of the entry UN 3028.

5. Documents submitted to the March session of the Joint Meeting of the RID Safety Committee and of the UNECE Working Party on the Transport of Dangerous Goods also show that there are continuing misunderstandings concerning the scope of this entry (see documents ECE/TRANS/WP.15/AC.1/2009/8 and informal document INF.21 available on the website of the United Nations Economic Commission for Europe at www.unece.org/trans/main/dgdb/ac1/ac1.age.html).

6. In order to avoid continuous contentious discussions in various fora as regards the interpretation of the scope of this entry, the Sub-Committee may wish to consider the following information and proposals by the secretariat.

7. The entry UN 3028 was introduced in the Model Regulations on the basis of a proposal by the Rapporteur of the United States of America to the Group of Rapporteurs of the Committee of Experts on the Transport of Dangerous Goods at its 28th session (8-12 March 1982), contained in document ST/SG/AC.10/C.2/R.315, which read as follows:

- “1. A large number of electric storage batteries are now being transported internationally which are not adequately described by any of the entries for batteries currently included in the United Nations Recommendations. These batteries are shipped de-activated and contain dry potassium hydroxide. They are activated prior to use by the addition of an appropriate amount of water to the individual cells.
2. Past experience has shown that the existing transport provisions (such as packaging requirements) that apply to potassium hydroxide are not appropriate to the transport of these batteries. To facilitate the development of appropriate packaging and handling requirements for batteries containing dry potassium hydroxide at the Inter-Governmental Maritime Consultative Organization (IMCO) and the international Civil Aviation Organization (ICAO), the Group of Rapporteurs is requested to consider the following new entry for inclusion in the list of dangerous goods:

UNXXXX	Battery, dry, containing potassium Hydroxide, electric storage.”	Class 8, Group III
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8. The proposal for this new entry was accepted by the Group of Rapporteurs after the query, as to why group III rather than II, was answered by citing the existence of the extra protection of the battery casing (ST/SG/AC.10/C.2/11, para. 37). The new entry was subsequently endorsed by the Committee.

9. However, when this new entry UN 3028 was introduced in the Dangerous Goods List, no description was included e.g. by the means of a special provision.

10. A description corresponding to that contained in the original proposal ST/SG/AC.10/C.2/R.315 was – and is still – included in the IMDG Code and in the ICAO Technical Instructions for the Safe transport of Dangerous Goods. However, this description was not included in various national or regional instruments (such as RID and ADR), which led to some confusion since, without a precise description, the name of the entry itself may lead to the conclusion that all batteries containing dry potassium hydroxide are covered.

11. To overcome the problem of interpretation resulting from this lack of clarity, special provision 304 was later included in order to exempt clearly various types of consumer batteries containing solid potassium hydroxide:

“ 304 Batteries, dry, containing corrosive electrolyte which will not flow out of the batteries of the battery case is cracked are not subject to these Regulations provided the batteries are securely packed and protected against short-circuits. Examples of such batteries are: alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries.”.

12. Nevertheless, this special provision implied *a contrario* that batteries containing solid potassium hydroxide, including those which do not meet the original definition that are not securely packed or are not protected against short-circuits, such as used batteries, should have to be classified under UN 3028.

13. In order to dissipate the current misunderstandings, the secretariat proposes to amend the text of special provision 304 to read as follows:

“304 This entry may only be used for the transport of de-activated batteries which contain dry potassium hydroxide and which are intended to be activated prior to use by the addition of an appropriate amount of water to the individual cells.”.
