

## 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

6 June 2011

### Thirty-ninth session

Geneva, 20 – 24 June 2011

Item 5 (d) of the provisional agenda

### Miscellaneous proposals of amendments to the Model Regulations on the Transport of Dangerous Goods: miscellaneous

## Assignment of Bulk Container Codes

### Transmitted by the expert from Germany

### Introduction

1. Germany presented a proposal on the revision of some bulk container instructions to the 15<sup>th</sup> session of the IMO Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (Document DSC 15/3/4, content<sup>1</sup> reproduced as annex to this document). A review of the assignment of BK Codes in the UN Model Regulations and in the IMDG Code had shown, that the assignment is not fully harmonized. Several proposals for amendments were made, taking into consideration if the substances are allowed to be transported in cargo holds of bulk carriers under the IMSBC Code as well as if they are permitted to be carried in bulk by European road regulations (ADR).
2. Having considered document DSC 15/3/4, noting the multimodal dimension of the proposed amendments, DSC 15 invited the delegation of Germany to submit a similar proposal to the TDG Sub-Committee for consideration an action, as appropriate.
3. Based on the approach presented in the annexed document, taking into consideration the current discussion in the Joint meeting on the revision of the system of bulk codes in RID/ADR/AND (see documents ECE/TRANS/WP.15./AC.1/2011/15 and ECE/TRANS/WP.15./AC.1/2011/15) the Sub-Committee is invited to discuss the possible amendments below.

### Proposal

4. For some those entries to which BK 2 has been assigned in the IMDG Code and which may be transported in bulk according to ADR as well as according to the IMSBC Code, BK Codes should be allocated in the UN Model Regulations, too. This would affect some substances of class 4.2 packing group III (UN Nos. 1363, 1386, 2217 and 2793) and some substances of class 4.3 packing group III (UN 1398 and 1435). For the latter, it should be considered if transport in bulk should be limited to BK 2. This would be aligned with the existing provisions of European land transport which require hermetically sealed openings (see ECE/TRANS/WP.15./AC.1/2011/15).

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<sup>1</sup> Document DSC 15/3/4 contained some editorial mistakes, therefore the annex reproduces the original submission of Germany.

5. It is to question whether bulk container codes are appropriate for substances of class 6.1 packing group II and III. If not BK 2 should be deleted for UN 3243. Furthermore, the annexed DSC Submission proposes that BK codes should not be assigned to substances with a subsidiary risk of 6.1. If the Sub-Committee follows that approach, BK 2 should be deleted for UN 1408. Consequently, the provisions for UN 1395, 1446 and 1469 should be harmonized in the IMDG Code with UN Model Regulations and BK 2 should be deleted in the IMDG-Code.

6. Furthermore, the Sub-Committee is invited to discuss a rationalized approach. Currently, BK Codes are assigned to some substances of class:

- 4.1, packing group II and III,
- 4.2 packing group III,
- 4.3 packing group II and III,
- 4.3, subsidiary risk 6.1, packing group III,
- 5.1, packing group II and III,
- 6.1, packing group II,
- 6.2,
- 8, packing group II and
- 9 packing group II and III.

7. Apart from the class and the packing group further aspects should be taken into account, for example the shape of the transported material.

8. Based on the outcome of the discussion, the expert from Germany is willing to submit a formal proposal for the next meeting.

## Annex

Sub-Committee of dangerous goods,  
Solid cargoes and containers  
15<sup>th</sup> session  
Agenda item 3

DSC 15/3/4  
01 June 2011  
Original: ENGLISH

### **Amendments to the IMDG Code and Supplements, including harmonization of the IMDG Code with the UN Recommendations on the Transport of Dangerous Goods**

**Revision of bulk container instructions for UN 1402, UN 1395, UN 1446, UN 1469,  
UN 2211 and UN 3314**

**submitted by Germany**

#### **SUMMARY**

<i>Executive summary:</i>	This document proposes amendments to the bulk container instructions for UN 1402, UN 1395, UN 1446, UN 1469, UN 2211 and UN 3314 in order to harmonize them with the relevant provisions of UN Model Regulations
<i>Strategic direction:</i>	5.2
<i>High-level action:</i>	5.2.3
<i>Planned output:</i>	5.2.3.1
<i>Action to be taken:</i>	Paragraph 13
<i>Related documents:</i>	none

## **Background**

1. Authorities in Germany received an inquiry of a shipping line, seeking advice whether the transport of UN 1402 Calcium carbide, packing group I, is permitted in bulk containers. There was an offer from a shipper to carry such cargo and the dangerous goods list of the IMDG Code shows "BK2" under the respective entry. But there were doubts, whether it is really intended by the Code to permit packing group I substances in bulk containers. The Authority recommended not to accept this cargo for shipment, as the involved hazard appeared not to be acceptable.

2. The IMDG Code permits UN 1402 packing group II in bulk containers only when the provisions of SP 951 are complied with, i.e "bulk container shall be hermetically sealed and under a nitrogen blanket". However, this special provision is not assigned to the entry of UN 1402 packing group I.

3. Further investigation showed that the assignment of BK 2 codes to certain UN numbers in the IMDG Code is not consistent with the UN Model Regulations. In some of these cases however, the IMSBC Code permits the transport of the relevant substances in the cargo holds of bulkcarriers. A list of all UN numbers concerned is shown in the annex to this document.

## Discussion

4. Germany is of the opinion that the assignemnt of bulk container instructions in the UN Model Regulations and in the IMDG Code should be harmonized as far as possible. It is recognized that the regulations for sea transport are more restrictive and only closed bulk containers are accepted. But it should not be the case that the IMDG Code permits the use of bulk containers where the Model Regulations do not.

5. For UN 1363, UN 1386, UN 1398, UN 1435, UN 2217 and UN 2793 the Model Regulations do not provide a bulk container instruction. The IMDG Code however assigns "BK2". These commodities are permitted in the cargo holds of bulk carriers under the IMSBC Code and they are also permitted under certain conditions to be carried in bulk by European road regulations (ADR). Therefore it is considered appropriate to amend the Model Regulations and to permit the use of closed bulk containers for these commodities both for the sea and for the land mode of transport.

6. For UN 2211 and UN 3314 the Model Regulations do not provide a bulk container instruction. The IMDG Code however assigns "BK2". These commodities are not permitted in the cargo holds of bulk carriers under the IMSBC Code. They are permitted to be carried in bulk by European road regulations (ADR), but only under the condition that the containers are sufficiently ventilated. Therefore it is considered appropriate to maintain the bulk container instruction "BK2" in the IMDG Code, but to add a special provision that only ventilated bulk containers are permitted.

7. For UN 1395, UN 1446 and UN 1469 the Model Regulations do not provide a bulk container instruction. The IMDG Code however assigns "BK2". These commodities have a subsidiary risk of class 6.1, therefore it seems not appropriate to permit the transport in bulk containers, which do not provide a proper confinement for toxic substances. In this context it should be noted that chapter 4.3 of the IMDG Code (use of bulk containers) does not consider at all the specific hazards of substances with toxic properties. As well, European road regulations do not permit the bulk transport of these commodities due to the toxic subsidiary risk. Notwithstanding these considerations, the IMSBC Code permits the shipment of these substances in the cargo holds of bulk carriers, however there are specific safety measures required, such as gastightness of bulkheads, detectors for quantitative measurements of gas concentrations, face masks for the crew etc. As this equipment is not generally available on a ship carrying cargo transport units and as the product information provided to the crew of such ships does not contain all those details that are contained in the cargo information for bulk carriers, these cargoes should be not permitted in bulk containers under the IMDG Code, and the Code should be harmonized with the Model Regulations.

8. For UN 1402 packing group I, shipment in bulk containers shall be prohibited for safety reasons. The entry "BK2" in the dangerous goods list of the IMDG Code for this commodity is obviously an error and should be corrected by the next Errata & Corrigenda. For UN 1402 packing group II, special provison 951 of the IMDG Code applies and shipment in bulk containers is only permitted if the container is hermetically sealed and if the cargo is under a nitrogen blanket. However, the fact that a container is hermetically sealed should be tested and approved. As chapter 6.9 of the IMDG Code does not contain

any provisions for hermetically sealed bulk containers, it seems appropriate to transport this cargo in tanks only. As the tank instruction "T3" and the tank provision "TP33" are already assigned for this entry, the bulk container instruction should be deleted.

## **Proposals**

9. In the dangerous goods list for UN 1402 packing group I the entry "BK2" should be deleted. This should be communicated by the next Errata & Corrigenda.
10. In the dangerous goods list for UN 1402 packing group II and for UN 1395, UN 1446 and UN 1469 the entry "BK2" should be deleted.
11. A special provision SP 9XX should be assigned to UN 2211 and UN 3314:  
"SP 9XX If transported in closed bulk containers the containers shall be sufficiently ventilated to prevent the build-up of an explosive atmosphere in the containers."
12. The Sub-Committee is asked to express the opinion, that the UN Model regulations should permit the use of closed bulk containers for UN 1363, UN 1386, UN 1398, UN 1435, UN 2217 and UN 2793 and to permit the use of open or closed bulk containers for UN 2211 and UN 3314, the latter only provided that closed bulk containers are sufficiently ventilated.

## **Action requested of the Sub-Committee**

13. The Sub-Committee is invited to consider the discussions above and proposals set forth in paragraph 9 to 12 and take action as appropriate.

## Annex

### Bulk container instructions in the UN Model Regulations and in the IMDG Code and respective provisions in the IMSBC Code

UN Number	UN Model Regulations	IMDG Code	IMSBC Code	Proper Shipping Name
1334	BK 1 BK 2	BK 2	Not permitted	Naphthalene
1350	BK 1 BK 2	BK 2	Permitted	Sulphur
1363	BK not assigned	BK 2	Permitted	Copra
1376	BK 2	BK 2	Permitted	Iron oxide spent
1386	BK not assigned	BK 2	Permitted	Seed cake, containing vegetable oil
1395	BK not assigned	BK 2	Permitted	Aluminium ferrosilicon powder
1398	BK not assigned	BK 2	Permitted	Aluminium silicon powder uncoated
1402	BK not assigned	BK 2	Not permitted	Calcium carbide
1408	BK 2	BK 2	Permitted	Ferrosilicon
1435	BK not assigned	BK 2	Permitted	Zinc ashes
1438	BK 1 BK 2	BK 2	Permitted	Aluminium nitrate
1446	BK not assigned	BK 2	Permitted	Barium nitrate
1454	BK 1 BK 2	BK 2	Permitted	Calcium nitrate
1469	BK not assigned	BK 2	Permitted	Lead nitrate
1474	BK 1 BK 2	BK 2	Permitted	Magnesium nitrate
1486	BK 1 BK 2	BK 2	Permitted	Potassium nitrate
1495	BK 1 BK 2	BK 2	Not permitted	Sodium chlorate
1498	BK 1 BK 2	BK 2	Permitted	Sodium nitrate
1499	BK 1 BK 2	BK 2	Permitted	Sodium nitrate and potassium nitrate mixture
1910	Regulated only by air	Not regulated	Permitted	Calcium oxide (Lime) In IMSBC Code MHB
1942	BK 1 BK 2	BK 2	Permitted	Ammonium nitrate
2067	BK 1 BK 2	BK 2	Permitted	Ammonium nitrate based fertilizer A
2071	Regulated by air and sea	BK 2	Permitted	Ammonium nitrate based fertilizer B

UN Number	UN Model Regulations	IMDG Code	IMSBC Code	Proper Shipping Name
2211	BK not assigned	BK 2	Not permitted	Polystyrene beads
2213	BK 1 BK 2	BK 2	Not permitted	Paraformaldehyde
2216	regulated only by sea	BK 2	Permitted	Fish meal, stabilized
2217	BK not assigned	BK 2	Permitted	Seed cake, oil extracted
2793	BK not assigned	BK 2	Permitted	Ferrous metal borings
2814	BK 1 BK 2	BK 2	Not permitted	Infectious substances affecting humans
2900	BK 1 BK 2	BK 2	Not permitted	Infectious substances affecting animals only
2912	-	-	Permitted	Radioactive material LSA I
2913	-	-	Permitted	Radioactive material SCO I
2950	BK 2	BK 2	Not permitted	Magnesium granulate, coated
2969	BK 1 BK 2	BK 2	Permitted	Castor beans
3170	BK 1 BK 2	BK 2	Permitted	Aluminium smelting by-products
3175	BK 1 BK 2	BK 2	Not permitted	Solids containing flammable liquid
3243	BK 1 BK 2	BK 2	Not permitted	Solid containing toxic liquid
3244	BK 1 BK 2	BK 2	Not permitted	Solid containing corrosive liquid
3291	BK 2	BK 2	Not permitted	Clinical waste
3314	BK not assigned	BK 2	Not permitted	Plastics moulding compound
3373	BK 1 BK 2	BK 2	Not permitted	Biological substance category B
3377	BK 1 BK 2	BK 2	Not permitted	Sodiumperborate monohydrate
3378	BK 1 BK 2	BK 2	Not permitted	Sodium carbonate peroxyhydrate