

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

Twenty-eighth session
Geneva, 28 November – 7 December 2005
Item 10 of the provisional agenda

GUIDING PRINCIPLES FOR THE MODEL REGULATIONS

Guidance for the assignment of IBC special provisions

Transmitted by the expert from the United States of America

Background

1. The expert from the United States of America proposed the adoption of a rationalized approach for the assignment of IBC authorizations for inclusion in the Guiding Principles in ST/SG/AC.10/C.3/2005/52. It was noted in 2005/52 that a proposal for the rationalized assignment of IBC special provisions would be forthcoming. This work is now complete and the Sub-Committee is invited to consider the guidance presented in Annex 1 for inclusion in the Guiding Principles.

2. During this exercise several inconsistencies were noted with respect to the current IBC special provision assignments, and it is proposed that appropriate amendments be made to correct these inconsistencies (see Annex 2).

Proposals

3. Add the guidance in Annex 1 concerning the assignment of IBC Special Provisions to Part 4 of the Guiding Principles. It is proposed that this guidance immediately follow the guidance proposed in 2005/52 regarding the assignment of IBC Packing Instructions.

4. Consider the amendments proposed in Annex 2 and take appropriate action.

Annex 1

Rationalized approach for the assignment of IBC Special Provisions:

IBC Special Provisions shall be applied taking into account the characteristics of the material and the assigned IBC Packing Instruction. A list of the current IBC Special Provisions is provided in Table 1. A rationalized approach for the general assignment of IBC Special Provisions is provided in Table 2. A list of the IBC Special Provisions assigned to specific substances is provided in Table 3.

Table 1 - List of IBC Special Provisions	
IBC SP	Provision
B1	For packing group I substances, IBCs shall be transported in closed transport units.
B2	For packing group II solid substances in IBCs other than metal or rigid plastics IBCs, the IBCs shall be transported in closed transport units.
B3	Flexible IBCs shall be sift-proof and water resistant or shall be fitted with a sift-proof and water resistant liner.
B4	Flexible, fibreboard or wooden IBCs shall be sift-proof and water resistant or shall be fitted with a sift-proof and water resistant liner.
B5	For UN Nos. 1791, 2014 and 3149, IBCs shall be provided with a device to allow venting during transport. The inlet to the venting device shall be sited in the vapour space of the IBC under maximum filling conditions during transport.
B6	For UN Nos. 1327, 1363, 1364, 1365, 1386, 1408, 1841, 2211, 2217, 2793 and 3314, IBCs are not required to meet the IBC testing requirements of Chapter 6.5.
B7	For UN Nos. 1222 and 1865, IBCs with a capacity greater than 450 litres are not permitted due to the substance's potential for explosion when transported in large volumes.
B8	The pure form of this substance shall not be transported in IBCs since it is known to have a vapour pressure of more than 110 kPa at 50 °C or 130 kPa at 55 °C.
B9	For UN 0082, this packing instruction may only be used when the substances are mixtures of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. Such explosives shall not contain nitroglycerin, similar liquid organic nitrates, or chlorates. Metal IBCs are not authorized.
B10	For UN 0241, this packing instruction may only be used for substances which consist of water as an essential ingredient and high proportions of ammonium nitrate or other oxidizing substances some or all of which are in solution. The other constituents may include hydrocarbons or aluminium powder, but shall not include nitro-derivatives such as trinitrotoluene. Metal IBCs are not authorized.
B11	UN 2672 ammonia solution in concentrations not exceeding 25% may be transported in rigid or composite plastics IBCs (31H1, 31H2 and 31HZ1).
B12	For UN 2907, IBCs shall meet the packing group II performance level. IBCs meeting the test criteria of packing group I shall not be used.
B13	For UN Nos. 1748, 2208 and 2880, transport by sea in IBCs is prohibited.

Table 2 - Assignment of IBC Special Provisions			
<i>Class or Division</i>	<i>Special properties</i>	<i>PG</i>	<i>IBC SP</i>
1	Explosive, blasting, type B in Division 1.1D (UN0082)	-	B9
	Explosive, blasting, type E in Division 1.1D (UN0241)	-	B10
3	Substances known to have a vapor pressure of more than 110 kPa at 50 °C or 130 kPa at 55 °C	II	B8
4.1	Substances allowed in IBCs other than metal or rigid plastics IBCs (IBC06 or IBC08)	II	B2
	Substances allowed in flexible IBCs (IBC08)	II	B4
	Substances allowed in flexible IBCs (IBC08)	III	B3
4.2	Substances allowed in IBCs other than metal or rigid plastics IBCs (IBC06 or IBC08)	II	B2
	Substances allowed in flexible IBCs (IBC08)	II	B4
	Substances allowed in flexible IBCs (IBC08)	III	B3
4.3	Substances allowed in IBCs	I	B1
	Substances allowed in IBCs other than metal or rigid plastics IBCs (IBC06 or IBC08)	II	B2
	Substances allowed in flexible IBCs (IBC08)	III	B4
5.1	Substances allowed in IBCs	I	B1
	Substances allowed in IBCs other than metal or rigid plastics IBCs (IBC06 or IBC08)	II	B2
	Substances allowed in flexible IBCs (IBC08)	II	B4
	Substances allowed in flexible IBCs (IBC08)	III	B3
6.1	Substances allowed in IBCs	I	B1
	Substances allowed in IBCs other than metal or rigid plastics IBCs (IBC06 or IBC08)	II	B2
	Substances allowed in flexible IBCs (IBC08)	II	B4
	Substances allowed in flexible IBCs (IBC08)	III	B3
8	Substances allowed in IBCs	I	B1
	Substances allowed in IBCs other than metal or rigid plastics IBCs (IBC06 or IBC08)	II	B2
	Substances allowed in flexible IBCs (IBC08)	II	B4
	Substances allowed in flexible IBCs (IBC08)	III	B3
9	<i>Class 9 IBC special provisions should be considered based on the specific properties of the material.</i>	-	-

The following IBC special provisions have been assigned to specific materials based on individual consideration, as indicated below.

Table 3 - IBC Special Provisions Assigned to Specific Materials	
IBC SP	Substances assigned/Comments
B5	Assigned to UN Nos. 1791, 2014, 2984, 3149. Intended for substances which require venting during transport (e.g. aqueous solutions of hydrogen peroxide).
B6	Assigned to UN Nos. 1327, 1363, 1364, 1365, 1386, 1408, 1841, 2211, 2217, 2793 and 3314. Intended for use when IBCs should not be required to meet the IBC testing requirements of Chapter 6.5.
B7	Assigned to UN Nos. 1222 and 1865. Intended when IBCs with a capacity greater than 450 litres should not be permitted due to the substance's potential for explosion when transported in large volumes.
B9	Assigned to Explosive, blasting, type B in Division 1.1D (UN0082). Specific to this substance.
B10	Assigned to Explosive, blasting, type E in Division 1.1D (UN0241). Specific to this substance.
B11	Assigned to UN 2672. The intent of this provision is to ensure that only ammonia solution in concentrations not exceeding 25% are transported in IBCs, although the proper shipping name authorizes up to 35%. Rigid or composite plastics IBCs (31H1, 31H2 and 31HZ1) are authorized.
B12	Assigned to UN 2907 and requires that IBCs shall meet the packing group II performance level and that IBCs meeting the test criteria of packing group I not be used. Intended to apply when substances could pose an explosive risk if over confined.
B13	Assigned to UN Nos. 1748, 2208 and 2880 and prohibits transport by sea. Intended to be applied when it is not deemed appropriate to allow transport of the IBC by the sea mode.

Annex 2

Specific Proposals to Correct Inconsistencies in the Application of the IBC Special Provisions in the Dangerous Goods List

1. For UN 2844, delete B2 from Column (9) of the Dangerous Goods List.

Justification: CALCIUM MANGANESE SILICON (UN 2844) is the only 4.3 PG III substance assigned B2. This appears to be an inconsistency.

2. For UN 1751, add B2 to Column (9) of the Dangerous Goods List.

Justification: CHLOROACETIC ACID, SOLID (UN 1751) is the only 6.1 PG II substance assigned to IBC08 that is not assigned B2. This appears to be an inconsistency.

3. Add B2 to Column (9) of the Dangerous Goods List for each of the following substances:

UN#	Name	Class	PG
1463	CHROMIUM TRIOXIDE, ANHYDROUS	5.1	II
1473	MAGNESIUM BROMATE	5.1	II
1484	POTASSIUM BROMATE	5.1	II
1485	POTASSIUM CHLORATE	5.1	II
1487	POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE	5.1	II
1488	POTASSIUM NITRITE	5.1	II
1490	POTASSIUM PERMANGANATE	5.1	II
1493	SILVER NITRATE	5.1	II
1494	SODIUM BROMATE	5.1	II
1495	SODIUM CHLORATE	5.1	II
1512	ZINC AMMONIUM NITRITE	5.1	II
1514	ZINC NITRATE	5.1	II
2465	DICHLOROISO-CYANURIC ACID, DRY or DICHLOROISO-CYANURIC ACID SALTS	5.1	II
2468	TRICHLOROISO-CYANURIC ACID, DRY	5.1	II
2627	NITRITES, INORGANIC, N.O.S.	5.1	II
3247	SODIUM PEROXOBORATE, ANHYDROUS	5.1	II

Justification: All other 5.1 PG II substances assigned IBC08 are assigned B2. These appear to be inconsistencies. It is noted that these substances were previously incorrectly assigned B3 and that when B3 was removed from these substances as of the 11th Revised Edition of the Model Regulations, B2 should have been added.

4. For UN 3152, delete B2 from column (9) of the Dangerous Goods List.

Justification: There appears to be no reason to require liquid polychlorinated biphenyls that are transported in IBCs to be further contained in closed transport units. No similarly classed items are assigned this provision. It is noted that the equivalent solid entry (UN 3432) does not have B2 applied.

5. For UN 3499, PG III, add B3 to column (9) of the Dangerous Goods List.

Justification: All other 4.3 PG III materials assigned to IBC08 are assigned B3. This appears to have been an oversight for this substance which was only recently added to the Dangerous Goods List.

6. For UN 2823, PG III, add B3 to column (9) of the Dangerous Goods List.

Justification: All other Class 8 PG III materials assigned to IBC08 are assigned B3. This appears to be an inconsistency.

7. The Sub-committee is invited to discuss the wording of B2, which states:

For packing group II solid substances in IBCs other than metal or rigid plastics IBCs, the IBCs shall be transported in closed transport units.

It has been noted that two PG III substances, CALCIUM MANGANESE SILICON (UN 2844) and WHITE ASBESTOS (chrysotile, actinolite, anthophyllite, tremolite) (UN 2590) are assigned B2.

It is questioned whether the provision should be reworded or whether a new special provision should be created to specifically address PG III substances. One possible solution would be to simply remove the reference to PG II so that the provision would read:

For solid substances in IBCs other than metal or rigid plastics IBCs, the IBCs shall be transported in closed transport units.
