



**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-eighth session**

Geneva, 29 November–7 December 2010

Item 6 of the provisional agenda

**Miscellaneous proposals of amendments to the Model Regulations
on the Transport of Dangerous Goods****Comments on ST/SG/AC.10/C.3/2010/39 - Possible use of
flexible bulk containers (FBCs) for the transport of
dangerous goods****Transmitted by the Chairman of the correspondence working group¹****Introduction**

1. During the Sub-Committee's thirty-first and thirty-fifth sessions, the International Dangerous Goods and Containers Association (IDGCA) requested that the Sub-Committee consider the adoption of provisions for the use of Flexible Bulk Containers (FBCs) within the UN Model Regulations. Based on comments received, a revised proposal intended to address the construction, testing, and authorization for use of such packagings was submitted for consideration at the Sub-Committee's thirty-seventh session (see ST/SG/AC.10/C.3/2010/39, ST/SG/AC.10/C.3/62, paras. 66-68 and ST/SG/AC.10/C.3/70, paras. 50-52).

2. Following working group discussions held during its thirty-seventh session, the Sub-Committee agreed to further consider the issue and, based on comments received, work towards a comprehensive set of requirements for such packagings. The Vice-Chairman agreed to be the focal point for this work and to consolidate comments for discussion during the present session with a particular emphasis on the following key areas:

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 (d) and ST/SG/AC.10/36, para. 14).

- The types of materials authorized for transport in FBCs;
- The specifications for FBCs (i.e. whether more specific design guidance was needed to address for example methods to prevent "bulging" of the FBCs);
- Testing provisions; and
- Operational concerns.

3. A summary of the comments received are included in the annex to this document. In order to facilitate discussions at the upcoming session, IDGCA will review these comments and as far as possible address them in an informal document which will be transmitted as soon as practicable.

Annex

Summary of comments received

[English only]

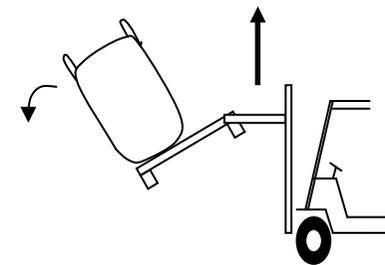
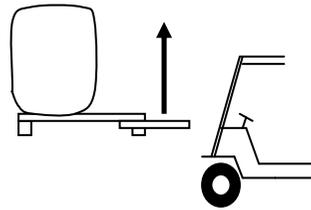
<i>Comment subject</i>	<i>Commenter(s)</i>	<i>Comment</i>
Authorized Materials	United Kingdom, DGAC	<p>The UK is concerned that large quantities of some of the substances proposed to be authorized are subject to the provisions for High Consequence Dangerous Goods in chapter 1.4. The UK considers the use of such FBCs especially in temporary transit storage to pose an unnecessary security risk and believes no such materials should be permitted in FBCs. The UK further believes that such substances should be restricted to PGIII at least as an interim measure.</p> <p>DGAC proposes that UN 3170, aluminum smelting and remelting by-products, Packing Groups II and III, be added to the list of authorized materials. DGAC notes that although not specifically stated in the IDGCA proposal, it is mentioned in the report of the June working group meeting (INF.82) that the substances proposed for authorization are those that are allowed for transport both in BK2 bulk containers and in bulk aboard vessels under the IMO IMSBC Code. DGAC further notes that UN 3170, Packing Groups II and III, also satisfy these criteria. In addition DGAC notes that under ADR/RID UN 3170, Packing Group II and III, is allowed to be transported in bulk in sheeted vehicles or sheeted containers (see column (17) of relevant entries in ADR/RID List of Dangerous Goods, and explanations of “VV” codes in 7.3.3). Finally, DGAC notes that UN 3170 Packing Group II and III was proposed to be authorized under the earlier (2009) IDGCA proposal.</p>
Flexible Bulk Container Specifications	United Kingdom, Germany	<p>The UK believes the issue of ‘bulging’ needs to be addressed, and that while completely full FBCs may possess a degree of rigidity, partially loaded FBCs during transport may be of concern. In addition the UK notes that for sea transport prevention of bulging seems to rely on close adjacent storage and that while there may be a commercial drive to ensure this is the case, there is no operational requirement specified.</p> <p>The UK would like to see the proposed means of top closure more explicitly set out to ensure no escape of product.</p> <p>The UK is concerned that there is no specific lifetime expectancy parameter identified for FBCs and that although a pre-trip inspection is required, the prospect of possible ‘single trip’ FBCs remaining in the transport chain beyond their capabilities is of concern.</p>

<i>Comment subject</i>	<i>Commenter(s)</i>	<i>Comment</i>
		<p>Germany does not believe FBCs by definition may be considered in Chapter 6.5 (intermediate bulk containers) or in chapter 6.8 (bulk containers). Germany states that the definition of bulk containers in section 1.2.1 of the recommendations on the transport of dangerous goods excludes typical packagings, eg. packagings, intermediate bulk containers IBCs, large packagings and portable tanks.</p> <p>Germany observes that a bulk container BK1/BK2 means an open top/totally closed containment system (including any liner or coating) or similar transport equipment (including frame construction) having rigid sidewalls, end walls, floors (including hopper-type bottoms) and a non-rigid covering (for BK1) or an additional rigid roof (for BK2). However FBCs do not fulfil these requirements. Germany believes that for FBCs to meet these requirements the construction should be modified e.g. at least with a rigid safety frame.</p> <p>Germany observes that the definition of intermediate bulk containers (IBC) includes rigid and flexible containment systems for dangerous goods with a maximum volume of 3.0 m³ and notes that FBCs as provided should have a volume more than 12.0 m³.</p>
Testing Provisions	Belgium, Sweden, United Kingdom, Germany	<p><u>General Concerns:</u></p> <p>The UK is concerned about the overall stability of the proposed FBCs and does not believe that test procedures based on flexible IBCs properly addresses the dynamic issues encountered during transport for flexible containment systems of this size. In addition the UK does not believe FBCs are suitable for stacking particularly in land transport. The UK does not believe enough evidence has been submitted to demonstrate the FBCs are capable of successfully passing the test procedures when those procedures are rigorously applied.</p> <p><u>Drop test:</u> Belgium is concerned conducting the drop test on bare earth is not equivalent to conducting the drop test on a “rigid, non-resilient, smooth, flat and horizontal surface” (see for example 6.8.5.3.5.3).</p> <p><u>Top lift test:</u> Belgium is concerned the top lift test was not mentioned in UN/SCETDG/35/INF.27/Add.1.</p> <p>Sweden questions whether it is necessary to include a provision for alternative top lift test methods to be used subject to the approval of the competent authority.</p> <p><u>Righting test:</u> Belgium is concerned that the righting test should be conducted in conformance with ISO 16467:2003.</p> <p><u>Topple test:</u> Belgium is concerned the topple test conducted was not in conformance with written theory. See the following illustrations:</p>

Comment subject

Commenter(s)

Comment



Germany is concerned that the proposed test provisions were designed for IBCs and do not readily correlate to FBCs. For example, Germany believes that it is impractical for FBCs to be tested with the proposed total test weight (6 times its gross mass--> e.g. 6 x 14 to= 78 to). Germany believes the test protocol needs to be modified to be feasible for FBCs.

Operational Concerns

United Kingdom,
Germany

The UK is concerned about the stability of FBCs for road or rail transport on any vehicle/wagon other than those having full-height rigid sides all around the FBC. The UK believes the probability of turn-over during transport is unacceptably high and finds it difficult to imagine how appropriate operational provisions could address this issue. The UK believes it would be better to treat FBCs as liners for existing sheeted bulk containers.

Germany expressed general concerns about stability of FBCs in transport.
