

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

20 June 2023

Sub-Committee of Experts on the Transport of Dangerous Goods

Sixty-second session

Geneva, 3-7 July 2023

Item 6 (c) of the provisional agenda

Miscellaneous proposals for amendments to the Model Regulations on the Transport of Dangerous Goods: Portable tanks

Comments on document ST/SG/AC.10/C.3/2023/29 on bottom outlet valves for IBCs transporting UN 1789

Transmitted by the International Confederation of Intermediate Bulk Container Associations (ICIBCA) and the International Confederation of Plastics Packaging Manufacturers (ICPP)

I. Introduction

1. Our organizations representing leading manufacturers of Intermediate Bulk Containers (IBCs) submit the comments below on document ST/SG/AC.10/C.3/2023/29 by the International Dangerous Goods and Containers Association (IDGCA).
2. For UN 1789, IDGCA notes the allowance of use of bottom outlets in the case of IBCs under IBC 02 and the disallowance of bottom openings in the case of multimodal portable tanks under tank instruction T8.
3. It appears that IDGCA regards IBCs and portable tanks transporting UN 1789 PG II as posing the same transport risk. While the IDGCA document makes no specific proposal, from the paper's justification section, it would appear that IDGCA has in mind one of two options:
 - (a) introducing a new restriction in IBC 02 disallowing bottom openings for IBCs transporting UN 1789; or
 - (b) establishing new design and testing requirements for both IBCs and portable tanks transporting UN 1789.
4. As discussed in the comments below, alignment is unnecessary in that the degree of hazard posed by IBCs and portable tanks transporting UN 1789 is widely different, particularly when transport by vessel is considered.

II. Rationalized approach for assigning requirements for UN portable tanks

5. The document "Guiding Principles for the Development of the Model Regulations on the Transport of Dangerous Goods" provides the basis for why bottom openings are not allowed on portable tanks transporting UN 1789. The general guideline in Part 4 C.1 (f) "Bottom openings" states:

"Bottom openings are not allowed for packing group I and certain packing group II substances which are highly corrosive to steel or aluminium."
6. It is understood that this guideline was adopted out of concern for a possible release of a portable tank's contents while onboard a vessel and the consequences such a release

might have on a vessel's structure in the case of a material that is highly corrosive (e.g., UN 1789). As such, tank instruction T8, which does not permit bottom openings, is assigned to UN 1789 as well as other highly corrosive substances.

III. Comparison of degrees of danger between IBCs and portable tanks carrying UN 1789

7. While IDGCA appears to consider an IBC and a portable tank containing UN 1789 as having the same degree of danger (hence their interest in making bottom opening restrictions comparable) this is not supported by the Guidelines where in Part 4B there is no similar bottom opening restriction for IBCs. We believe there may be several reasons for the difference of approach.

8. *Capacity differences.* The capacities of IBCs and portable tanks are significantly different so that a maximum possible release from an IBC is generally far less severe than a maximum release from a portable tank.

9. Like other performance based packagings, IBC requirements prescribe capacity limits. IBCs are limited to a capacity of 3000 litre or less. In practice, most IBCs used in transport have a capacity of 1000 litre or less.

10. There are no regulatory capacity limits for portable tanks. Intermodal portable tanks in a container frame – the most common configuration - are generally limited to approximately 26,000 litre capacity for practical reasons (i.e., fitting within a 20 foot ISO frame).

11. Given the capacity differences, it follows that a release from a bottom opening of a portable tank on a vessel could have far greater consequences than a similar event from an IBC.

12. *Operational practices.* Particularly when transported by vessel, IBCs are generally transported in closed freight containers so that they are afforded an added degree of protection in transport and handling in comparison to intermodal portable tanks. The added protection reduces the possibility of a release and reduces their impact should a release occur.

13. *Safety Record.* Review of US DOT incident data over a 10-year period (2013-2023) did not identify any significant dangerous goods releases from IBCs (there was one release of 10 gallons or less while loading) when transported by vessel (including loading, unloading and in transit). Considering that in the United States of America alone over 8 million new or reconditioned IBCs are placed on the market annually and that IBCs are widely used to transport dangerous goods by vessel, there is no indication the current IBC authorizations are inappropriate or in need of amendment.

IV. Recommendation

14. We find that arguing for use of bottom outlets for portable tanks transporting UN 1789 on the basis of Model Regulations provisions for IBCs is without merit owing to wide differences in the dangers posed, particularly in the case of vessel transport. We would urge IDGCA to employ other argumentation if they are intent on obtaining authorization for use of portable tanks with bottom outlets for UN 1789.
