



**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****Forty-third session**

Geneva, 24–28 June 2013

Item 2 (d) of the provisional agenda

Explosives and related matters: review of packing instructions for explosives**Amendment to PP48 as applied to Packing Instruction
P114(b) for UN 0509****Transmitted by the Sporting Arms & Ammunition Manufacturers'
Institute (SAAMI)¹****Introduction**

1. Based on a SAAMI proposal, a new entry “UN 0509, Powder, smokeless, 1.4C” was added to the dangerous goods list in Chapter 3.2 of the Model Regulations annexed to the 16th revised edition of the United Nations Recommendations on the Transport of Dangerous Goods. As a condition of the new entry, PP48 was amended as follows: “For UN Nos. 0508 and 0509, metal packagings shall not be used.”

2. SAAMI seeks a clarifying amendment that packaging components representing a minimal percentage of the overall package can still be metal. The intent is to allow light weight lids of sheet metal on plastic packages for UN 0509.

Discussion

3. UN 0509 was created based on SAAMI’s proposal ST/SG/AC.10/C.3/2007/12. This was a short working paper that identified a need for a UN entry to assign smokeless powder which met classification test requirements for assignment to Division 1.4C. The formal paper was supported by an informal paper INF.16 (31st session) giving a large amount of data. The data showed that packages packed for consumers up to 3.7 kg predominantly meet Division 1.4 criteria.

¹ In accordance with the programme of work of the Sub-Committee for 2013-2014 approved by the Committee at its sixth session (refer to ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

4. The Working Group on Explosives reviewed the proposal. Consensus was gained with two amendments. First a proposed weight limitation was eliminated, as the Test Series 6(c) bonfire evaluation is capable of assigning appropriate classifications without the addition of limits, and unnecessary exceptions should be avoided. Secondly a view was expressed that metal should be prohibited. This was agreed based on the following information.
5. Smokeless powder has long been packaged in cans made of thin sheet metal with metal lids. The can bursts with pressure at the vertical seam and at the seams of the top and bottom sheet metal plates. It is SAAMI's experience that there is a popping noise in a fire but no explosion. Some experts have experience to the contrary and felt that metal could create confinement.
6. Metal packages of the type used for smokeless powder are becoming obsolete. They have disadvantages which make them undesirable on the market, for example they are subject to rust. In the 1980's after the development of blow moulding technology, manufacturers began a transition to plastic from fibre/metal and metal cans. Industry has now largely completed the transition to plastic packaging. Therefore a prohibition against metal was not an issue of concern.
7. The Manual of Tests and Criteria encourages flexibility and the use of judgment by competent authorities. At the time of adoption SAAMI felt that metal screw on lids would not be prohibited as part of PP48, as they do not provide confinement. It could be argued that they vent easier than a plastic lid because of the less aggressive thread. Unlike metal cans, metal lids are still a widely used and effective packaging component. Many of the tests presented to support the proposal were performed with plastic receptacles having metal lids, demonstrating that the presence of a metal lid does not affect the classification. The packaging as intended for transport, with or without a metal lid, is evaluated by performance testing to obtain a classification.
8. SAAMI desires to clarify that the Model Regulations in PP48 do not prohibit a metal lid on a non-metal receptacle such as a plastic bottle or jar. We also note that any change might also affect other UN numbers such as UN 0508, or for example UN 0504 in the application of PP48 to Packing Instruction P112. The wording of any change should be crafted to effectively address the need without unintended consequences. It may be best to create a new packing provision to avoid changes to other UN numbers which we have not evaluated. Therefore we propose a new packing provision.
9. SAAMI proposes that metal not be allowed to exceed a percentage based on existing metal lid and plastic bottle weights. The common weight ratio of a metal lid to a plastic bottle is a maximum of 20% for smaller packages (e.g. 500g) and lower ratios for larger packages (e.g. 4kg). Therefore we propose to allow for a small maximum percentage of metal to allow for the use of a thin sheet metal lid or other metal packaging component. We are not opposed to limiting this to a lid.
10. We request this paper to be remanded to the Explosives Working Group on Explosives for a recommendation on the acceptability of the following proposal.

Proposal

11. Create a new packing provision for packing instruction 114(b) as follows:
"PPXX For UN No. 0509, metal packagings shall not be used except metal lids may be used not exceeding 20% of the inner package weight."
Make a consequential amendment to PP48 in 114(b) to delete ~~and UN 0509.~~