

## 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

15 November 2011

### Fortieth session

Geneva, 28 November – 7 December 2011

Item 2 (c) of the provisional agenda

**Listing, classification and packing: miscellaneous**

## Light bulbs containing small quantities of dangerous goods

### Transmitted by the expert from the United Kingdom

### Introduction

1. Light bulbs are an accepted part of everyday living in a wide variety of situations from lighting our homes, meeting rooms, hospitals etc, to stadiums and accident scenes in emergency situations. The light bulb industry has striven to continue to meet society's needs, whilst being environmentally sound, by developing and introducing new technologies to supply energy efficient light bulbs.
2. This paper is intended as a discussion document to address dangerous goods issues associated with light bulbs which are arising as industry seek to market new products.
3. It should be recalled that light bulbs containing gases of division 2.2 are not subject to the Model Regulations in accordance with paragraph 2.2.2.4. The expert from the United Kingdom is aware of other light bulbs which contain other dangerous goods such as mercury, sodium or radioactive isotopes and there may be other technologies awaiting release into the public domain.
4. This sub-committee has recently introduced a new entry for UN3506 Mercury contained in manufactured articles in the Dangerous Goods List. It would appear that light bulbs containing mercury could be assigned to this entry and there has been further recent discussion in the ICAO Dangerous Goods Panel concerning appropriate conditions for such articles in air transport.
5. It is believed that light bulbs containing radioactive material are currently regulated but that IAEA are considering whether or not this should continue to be the case.
6. For light bulbs containing sodium, in some cases in quantities up to 3 g, there appears to be no alternative but to assign these to UN1428 SODIUM which attracts no limited quantity or excepted quantity provisions and hence must be transported fully regulated.
7. In almost all cases dangerous goods contained in light bulbs are encapsulated in a strong hermetically sealed glass bulb, which could be considered as an inner packaging, and the bulb assembly is then contained in good quality robust fibreboard boxes. In the case of particularly expensive specialist bulbs the packaging may be of materials such as plastics. The glass bulb and fibreboard box could be considered to be a combination packaging. Such packaging is essential if the light bulb is to reach its destination as a saleable article.

8. The United Kingdom competent authority has recently been asked to issue an approval to allow the transport of sodium lamps containing up to 3 g of sodium as UN3363 DANGEROUS GOODS IN APPARATUS. We understand that some other competent authorities may already have issued such approvals. However, the United Kingdom is reluctant to take this approach as we are concerned that this entry is becoming a repository for a range of articles that do not fit readily under other entries. Without a readily available alternative and because we believe the level of risk is not significant, we have been prepared to issue a temporary approval pending discussion in this fora.

**The sub-committee is invited to consider the following:**

9. Should light bulbs containing dangerous goods always be assigned to the most appropriate entry for the dangerous goods they contain?
  10. Where such entries may have limited quantity or excepted quantity provisions, should packaged light bulbs be required to meet these provisions?
  11. Should thresholds be set for the type of dangerous goods they contain below which light bulbs are not subject to the Model Regulations, as already happens for gases of Division 2.2?
  12. Should the Model Regulations introduce a new entry along the lines of UN xxxx LIGHT BULBS containing small quantities of dangerous goods of Classes xxx with a Special Provision detailing quantity thresholds by Class and applying only minimal packaging requirements?
  13. How should waste, damaged or defective light bulbs be handled? How are they handled now?
  14. Depending on the outcome of debate, the expert from the United Kingdom would be willing to work with others to bring forward proposal for a future session of the Sub-Committee.
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