

## 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

1 December 2010

### Thirty-eighth session

Geneva, 29 November– 7 December 2010

Item 4 of the provisional agenda

**Listing, classification and packing**

## Comments on document ST/SG/AC.10/C.3/2010/64

Transmitted by the experts from P. R. China

### **Hazard communication for supply and special provision for a new type of confetti-shooters:**

#### Issue

1. A new type of confetti-shooters appeared in recent years. As an environmental protective production for ceremony, the confetti-shooters mainly used for celebration and entertainment activities both indoor and outdoor. The power of confetti-shooters always be pressed gas and the contents are colourful paper, flame resisting paper and aluminium tinsel which can be scattered. The structure of the confetti-shooters can be divided into two parts, the spurt body and spurt contents. Till now, there were no suitable UN number for this kinds of confetti-shooters.
2. The experts from Germany have proposed in document ST/SG/AC.10/C.3/2010/64 to amend Chapter 3 of create a new entry in class 2 so that it consolidates physical hazard classification criteria and hazard communication elements for confetti-shooters in a new entry of the TDG. We agree with the document an discussed in details.
3. To support the above, this informal document sets the reasoning behind these claims in further detail. The paper in particular argues that:
  - Examination results of different kinds of confetti-shooters show that it does not suitable for class 1, the principal danger of confetti-shooters is activating the release device and the spurt contents might shock at persons or something else.
  - Comparing the confetti-shooters and the existing UN numbers of 1002, 1066, 3164 and 3150. The results show that the shooters do not meet the criteria of these existing UN numbers;
  - New special packing provisions are needed for the new UN number of confetti-shooters.
4. The experts from the People's Republic of China believe that this proposal fully consistent with the provisions on classification in the UN Recommendations on the Transport of Dangerous Goods.

**(a) Terminological considerations in Model Regulations: the confetti-shooters can not be assigned to class 1**

5. During the test of hot-water bath test, falling test (falling high 1.8m), there were no leaking was found. For the combustion test, there were no violent disruption and scattering of most of the confining material and evidence of explosion. In the fire test similar to the test UN 6(b) with 25 shooters, results show that it will relieve its pressure in a smooth way by the melting the plastic lock mechanism and there were no fragments of the shooters or rocket more than 5 meters. All the results indicate that the confetti-shooters do not suitable for class 1.

**(b) Terminological considerations in Model Regulations: compared the criteria of the existing UN numbers such as 1002, 1006, 3164, 3105**

6. In the Model Regulations (Rev.16), the definition of UN1002, UN1066, UN3164, UN3150 as follows:

- 1) UN1002 AIR, COMPRESSED, division 2.2, packing instruction P200
- 2) UN1066 NITROGEN, COMPRESSED, division 2.2, packing instruction P200
- 3) UN3164 ARTICLES, PRESSUREZED, PNEUMATIC or HYDRAULIC (containing non-flammable gas) , division 2.2, packing instruction P003
- 4) UN3150 DEVICES, SMALL, HYDROCARBON GAS POWERED or HYDROCARBON GAS REFILLS FOR SMALL DEVICES with release device, division 2.1, packing instruction P003

7. The receptacle of the confetti-shooters contains pressurized gas instead of pyrotechnics. It was filled by compressed air or nitrogen with a plastic lock mechanism, a plug of rubber and metal cap for closing the receptacle and different types of confetti. By unlocked the mechanism, the pressurized gas is discharged immediately and the confetti is shot away for a few meters. It is different from the UN 1002 and UN1066 which contains only air or nitrogen in the pressurized receptacle and can only release the pressure by a peculiar valve.

8. The receptacle of the confetti-shooters contains only air or nitrogen, which means it does not meet the requirement of UN 3164 and cannot be assigned to UN 3150.

9. The small metal pressure receptacle test results show that it was pressurized at 1.0~2.3Mpa, inner volumes of 120~190ml, length vary from 90~240mm, spurt height 4~26m, the burst pressure for both kind of the receptacle was at least 14MPa. It was different from the goods which were meet the criteria of the UN numbers mentioned above.

10. Because the differences and in order to consider the new types of shooters appropriately, it is needed to add a new UN number for the confetti-shooter.

**(c) Terminological considerations in Model Regulations: the packing instruction and special packing provisions for the confetti-shooter**

11. The new confetti-shooters only compressed by air or nitrogen at 1.0~2.3MPa, it shall be classified as class 2, no subsidiary risk and suitable for the packing instruction P003.

12. Special packing 283 was lay down suitable basic requirements to ensure safe construction and handling of articles containing gas intended to function as shock absorbers, including impact energy-absorbing devices, or pneumatic springs. SP283 contains five

requirements for the gas space capacity, charge pressure, minimum burst pressure, materials, quality assurance standard and design type.

13. Similar to SP283, the new SP3×× lay down some suitable basic requirements for the new UN number 3×××ARTICLES CONTAINING PRESSURIZED RECEPTACLES. It is necessary for the articles to meet eight requirements as follow. The filled gas can only be air or nitrogen, the gas space capacity of the pressure receptacle shall not exceed 0.5 litres with highest pressure 25bar, the minimum burst pressure shall be at least four times the charge pressure at 20°C, the actuating device shall have positive means of preventing unintentional actuation, there should be a pull-proof device on the spurt device, the article should not rocket backward to prevent injury, the material of the pressure receptacle should not fragment upon rupture, the pressure of the article shall be relieved by a kind of fire degradable seal or pressure relief device, during the single package test the article shall be no hazardous effects.

14. The new SP3×× require that manufacture make sure that their procedures to ensure the quality of the shooters and provide necessary information to the Competent Authority including emergency action.

15. The new SP3×× also gives the quantities of the confetti-shooters

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