

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

2 December 2011

Fortieth session

Geneva, 28 November – 7 December 2011

Item 2 (c) of the provisional agenda

Listing, classification and packing: miscellaneous

Provisions for uranium hexafluoride with less than 0.1 kg per package

Lunch time working group

IAEA Proposal: UF₆ < 100 g classified as Class 7 with subsidiary risk of Class 8

10. In table 2.7.2.1.1 add the following entry under "Excepted packages" UN3XYZ RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – URANIUM HEXAFLUORIDE, less than 0.1 kg per package, non-fissile or fissile-excepted

Add in 2.7.2.1.1 under uranium hexafluoride the following note

Note: for UF₆ in excepted packages see UN 3xyz under excepted packages.

11. Amend paragraph 2.7.2.4.1.1 to read as follows:

“2.7.2.4.1.1 Packages may be classified as excepted packages if:

- (a) They are empty packages having contained radioactive material;
- (b) They contain instruments or articles in limited quantities as specified in Table 2.7.2.4.1.2;
- (c) They contain articles manufactured of natural uranium, depleted uranium or natural thorium;
- (d) They contain radioactive material in limited quantities as specified in Table 2.7.2.4.1.2; or
- (e) They contain less than 0.1 kg of uranium hexafluoride not exceeding the activity limits specified in column 4 of Table 2.7.2.4.1.2.”

12. Add a new paragraph 2.7.2.4.17

“2.7.2.4.17 Uranium hexafluoride not exceeding the limits specified in column 4 of Table 2.7.2.4.1.2 may be classified under UN 3XYZ RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – URANIUM HEXAFLUORIDE, less than 0.1 kg per package, non-fissile or fissile-excepted, provided that the conditions of 2.7.2.4.1.4 (a)–(b) are met.”

13. Replace paragraph 2.7.2.4.5 with the following text:

“2.7.2.4.5 Classification of uranium hexafluoride

2.7.2.4.5.1 Uranium hexafluoride shall only be as assigned to:

- (a) UN No 2977, RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE; or
- (b) UN No 2978, RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non-fissile or fissile-excepted; or
- (c) UN No 3XYZ, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – URANIUM HEXAFLUORIDE, less than 0.1 kg per package, non-fissile or fissile-excepted, in the case of uranium hexafluoride in quantities of less than 0.1 kg packaged and in an excepted package.

2.7.2.4.5.2
contain:

Packages containing uranium hexafluoride assigned to UN 2977 and UN2978 shall not

- (a) A mass of uranium hexafluoride different from that authorized for the package design;
- (b) A mass of uranium hexafluoride greater than a value that would lead to an ullage smaller than 5% at the maximum temperature of the package as specified for the plant systems where the package shall be used; or
- (c) Uranium hexafluoride other than in solid form or at an internal pressure above atmospheric pressure when presented for carriage.

14. Add the following entry in Chapter 3.2, List of Dangerous Goods:

UN No.	Name and description	Class	Subsidiary risk	PG	SP	Limited Quantity	Excepted Quantity	Packing Instruction
3XYZ	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - URANIUM HEXAFLUORIDE, less than 0.1 kg per package, non-fissile or fissile-excepted	7	8 [6.1]		317 3XX	0	E0	P701

N.B. In the above table Packing Group is not indicated, but requirements for Packaging Group I in Special Provision XXY should apply.

15. Delete Special Provision 325 in column 6 against the entry for UN 2910 in the List of Dangerous Goods¹⁶. Add a new special provision 3YY in the column 6 against the entry for UN 2910 in the list of Dangerous Goods and a corresponding text in Chapter 3.3 to read as follows:

"3YY In the case of non-fissile or fissile-excepted uranium hexafluoride, the material shall be classified under UN3XYZ or UN 2978."

17. Chapter 3.3, add the following special provision:

"3XX

Notwithstanding 5.1.5.4.2 and in addition to the provisions of 1.5.1.5, the following requirements of part 5 shall be applied:

- 1) The package shall be marked in accordance with 5.2.1 and labelled with model [7A], 8 [and 6.1] in accordance with 5.2
- 2) Transport documents shall be in accordance with the requirements of 5.4.1.1 to 5.4.1.4; 5.4.1.5.1; 5.4.1.6; and 5.4.2 to 5.4.4.

The description in the transport document according to 5.4.1.4.1 shall be UN 3XYZ radioactive material, excepted package, uranium hexafluoride, 7(8)[6.1]."

18. Add the following Packing Instruction P701

P701	PACKING INSTRUCTION
This instruction applies to UN No. 3XYZ	
The following packagings are authorized provided that the general provisions of 4.1.1 and 4.1.3 and the special packing provision of 4.1.9 applicable to excepted package for radioactive material are met:	
(1) The package shall consist of three components::	
(a)	a metal or plastic primary receptacle::
(b)	leakproof rigid secondary packaging(s)
(c)	A rigid outer packaging:
Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G);	
Boxes (4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2);	
Jerricans (3A2, 3B2, 3H2).	
(2) primary receptacles shall be packed in secondary packagings in a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the secondary packaging. Secondary packagings shall be secured in outer packagings with suitable cushioning material to prevent movement. If multiple primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated so as to prevent contact between them.	
(3) Packaging shall conform to the packing group 1 performance level	
(4)	The total quantity of uranium hexafluoride per package shall be less than 0.1 Kg.
(5)	In the case of fissile material, limits specified in (2.7.2.3.5 and 6.4.11.2) shall be met.

Consequential amendment in 2.0.3.2:

Modify the last sentence to read as follows:

"For radioactive material in excepted packages, except for UN 3XYZ, special provision 290 of chapter 3.3 applies