



**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****Fifty-fourth session**

Geneva, 26 November-4 December 2018

Item 2 (c) of the provisional agenda

**Recommendations made by the Sub-Committee on its fifty-first,
fifty-second and fifty-third sessions and pending issues:
listing, classification and packing****Amendment of packing instructions P400 and P404****Transmitted by the European Chemical Industry Council (CEFIC)*****Introduction**

1. At the fifty-third session of the Sub-Committee, CEFIC raised the topic of safety related issues concerning the handling of inner receptacles of combination packagings filled with pyrophoric solids according to the requirements of packing instruction P404.
2. There was general support for the proposal in informal document INF.23 (fifty-third session) to amend packing instruction P404 accordingly. The Sub-Committee invited CEFIC to revise the proposal in the light of the comments made and to submit an official document for the fifty-fourth session, also considering at the same time to revise packing instruction P400, which applies to pyrophoric liquids respectively.

Discussion

3. Packing instruction P400, as well as P404, provide robust provisions to maintain conditions of hermetically sealing during transport. For combination packagings both packing instructions define specific requirements on threaded closures for metal or glass receptacles when used as inner packagings.
4. Practical experience shows that the packing provisions required by P400 and P404 ensure an adequate level of safety in transport. However, individual handling of authorized

* In accordance with the programme of work of the Sub-Committee for 2017-2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, paragraph 14)

inner packagings reveals issues for occupational safety related to the threaded closures when resealing the receptacles after partial removal of product for supply and use. Small residues of the pyrophoric substance adhering to the threads may react critical on friction caused by screwing back of the closure.

5. Threaded closures are quite suitable to prevent back-off or loosening during transport. Requirements in packing instructions P601, P602 or P804 related to closures of inner packagings aim for the same protective goal. However, these provisions provide a more flexible approach for technical solutions of adequate closures less sensitive to effects of friction.

6. Therefore, CEFIC proposes to supplement the requirements of P400 and P404 on threaded closures for inner packagings and to authorize the possibility to apply alternative technical means capable of preventing back-off or loosening of the closure by impact or vibration during transport, as provided in P601, P602 or P804.

7. In accordance with the Sub-Committee's advice from the fifty-third session, CEFIC prepared the present formal document to amend P400 and P404 respectively, adopting language already proven to be reliable.

8. Thorough review of P404 also revealed two clerical mistakes. UN 3461, which appears in the listing of the allocated UN Numbers, is currently not assigned in the Dangerous Goods List, and in paragraph (2), the listing of suitable metal packagings, aluminium drums with removable head (1B2) seem to be forgotten. CEFIC proposes to correct these inconsistencies accordingly.

Proposals

9. Amend packing instruction P400 and P404 in 4.1.4.1 to read as follows (deleted text is ~~struck through~~; new text is underlined):

P400	PACKING INSTRUCTION	P400
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
(1) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be made of steel and shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1MPa (10 bar) (gauge pressure). During transport, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar).		
(2) Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F or 4G), drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1D or 1G) or jerricans (3A1, 3A2, 3B1 or 3B2) enclosing hermetically sealed metal cans with inner packagings of glass or metal, with a capacity of not more than 1 litre each, having threaded closures with gaskets. <u>Inner packagings shall have threaded closures or closures physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during transport.</u> Inner packagings shall be cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents. Inner packagings shall not be filled to more than 90% of their capacity. Outer packagings shall have a maximum net mass of 125 kg.		
(3) Steel, aluminium or metal drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2), jerricans (3A1, 3A2, 3B1 or 3B2) or boxes (4A, 4B or 4N) with a maximum net mass of 150 kg each with hermetically sealed inner metal cans not more than 4 litre capacity each, with threaded closures fitted with gaskets. <u>Inner packagings shall have threaded closures or closures physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during transport.</u> Inner packagings shall be cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents. Each layer of inner packagings shall be separated by a dividing partition in addition to cushioning material. Inner packagings shall not be filled to more than 90% of their capacity.		
Special packing provision:		
PP86	For UN Nos. 3392 and 3394, air shall be eliminated from the vapour space by nitrogen or other means.	

P404	PACKING INSTRUCTION	P404
This instruction applies to pyrophoric solids: UN Nos.: 1383, 1854, 1855, 2008, 2441, 2545, 2546, 2846, 2881, 3200, 3391, <u>and 3393</u> and 3461 .		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
(1)	Combination packagings	
	Outer packagings:	(1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1H1, 1H2, 1D, 1G, 4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G or 4H2)
	Inner packagings:	Metal receptacles with a maximum net mass of 15 kg each. Inner packagings shall be hermetically sealed and have threaded closures ; Glass receptacles, with a maximum net mass of 1 kg each, having threaded closures with gaskets, cushioned on all sides and contained in hermetically sealed metal cans.
		<u>Inner packagings shall have threaded closures or closures physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during transport.</u>
		Outer packagings shall have a maximum net mass of 125 kg.
(2)	Metal packagings:	(1A1, 1A2, 1B1, <u>1B2</u> , 1N1, 1N2, 3A1, 3A2, 3B1 and 3B2). Maximum gross mass: 150 kg
(3)	Composite packagings:	Plastics receptacle in a steel or aluminium drum (6HA1 or 6HB1). Maximum gross mass: 150 kg
Pressure receptacles , provided that the general provisions of 4.1.3.6 are met.		
Special packing provision:		
PP86	For UN Nos. 3391 and 3393, air shall be eliminated from the vapour space by nitrogen or other means.	