



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

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Item 3 of the provisional agenda

Listing, classification and packing

Organic peroxides: new formulations to be listed in 2.5.3.2.4 and packing instruction IBC520

Submitted by the European Chemical Industry Council (Cefic)*

1. Introduction

1. Since several new organic peroxides and formulations have become commercially available organic peroxide there is a need to include them in 2.5.3.2.4 and 4.1.4.2 packing instruction IBC520.
2. For one organic peroxide already listed, Di-2,4-Dichlorobenzoyl peroxide, new test data regarding the deflagration properties (UN test C.2, deflagration test) became available and according to the classification flow chart, test D1 (deflagration test in package) had to be performed. Based on the test results a more stringent (from Type D to Type C organic peroxide) classification is proposed. The list of products, proposed classification, the accompanying competent authority approval references as well as a summary of the supporting test data are given in the annex to this proposal.

2. Proposals

3. Cefic proposes to include three new entries and one change in 2.5.3.2.4, list of currently assigned organic peroxides, as indicated in proposal 2.1 below. Further, Cefic proposes to include one additional IBC type for an organic peroxide already listed in packing instruction IBC520, as indicated in proposal 2.2 below.

* A/75/6 (Sect.20), para. 20.51

2.1 Proposed amendments to 2.5.3.2.4 List of currently assigned organic peroxides:

ORGANIC PEROXIDE	Concentration (%)	Diluent type A (%)	Diluent type B 1) (%)	Inert solid (%)	Water (%)	Packing Method	Control temperature (°C)	Emergency temperature (°C)	Number (Generic entry)	Subsidiary risks and remarks
Change DI-2,4-DICHLOROBENZOYL PEROXIDE	≤ 52 as a paste with silicon oil					Change OP7 to OP5			Change 3106 to 3104	
Add to the list METHYL ETHYL KETONE PEROXIDE(S)	Remark 33)	≥ 41			≥ 9	OP8			3105	33) 34) 35)
Add to the list 2,5-DIMETHYL-2,5-(tert-BUTYLPEROXY) HEXANE	≤ 22			≥ 78					Exempt	29)
Add to the list DIBENZOYL PEROXIDE	≤ 42	≥ 38			≥ 13	OP8			3109	

Add the following new Notes to 2.5.3.2.4:

33) *Available oxygen ≤ 10 %*

34) *Sum of diluent type A and water being ≥ 55 %*

35) *With ≥ 41 % diluent Type A by mass, and in addition methyl ethyl ketone*

2.2 Proposed amendments to 4.1.4.2, Packing Instruction IBC520

Add IBC type 31HA1 to the existing entry as follows:

UN No.	Organic peroxide	Type of IBC	Maximum quantity (litres)	Control temperature	Emergency Temperature
3119	ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED				
	ADD to the existing entry:				
	Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 52 %, stable dispersion, in water	31HA1	1000	+10 °C	+15 °C

Annex

Test result of new organic peroxides and formulations to be added/amended (2.5.3.2.4 or IBC520)

No	Product	packaging	UN	Detonation	T/P/ C.1	Deflagration / C.2 Deflagration in package / D.1	Koenen/ E.1	DPVT/ E.2	(mod) Trauzl F.3 or F.4 or F5	SADT (H.3 or H.4)	Competent Authority approval number
1	DI-2,4-DICHLOROBENZOYL PEROXIDE, ≤ 52 as a paste with silicon oil	OP5	3104	Test A.1, No	1500 ms, Yes slowly	C.2: 41.7 mm/s, Yes rapidly D.1: No fragmentation, No	<1.0mm ("A"), Low	<1.0 mm (10g), Low	n.a.	H.4 60 °C (500ml)	NL TNO 21EM/0353
2	METHYL ETHYL KETONE PEROXIDE(S) active oxygen ≤ 10 %	OP7	3105	Test A.1, Partial	<2170kP, No	0.042 mm/s, No	<1.0mm ("B"), Low	6.0 mm (10g) Medium	n.a.	H.4 55 °C (500ml)	NL TNO 19EM/0055
3	2,5-DIMETHYL-2,5-(tert-BUTYLPEROXY) HEXANE, ≤ 22 %	-	Exempt	Test A.1, 17 cm, No (100 %)	<2170kP, No	0.05 mm/s, No	<1.0mm ("O"), No	<1 mm (50g) No	F.4 1.59 ml, No	H.4 > 80 °C (500ml)	NL TNO 20EM/0349
4	DIBENZOYL PEROXIDE, ≤ 42 %	OP8	3109	No, based on procedure MTC 21.2.2	120000ms, Yes slowly	0.0 mm/s, No	<1.0mm ("O"), No	1 mm (50g) Low	F.4 0.0 ml, No	H.4 50 °C (500ml)	NL TNO 20EM/0561
5	DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE, ≤ 52 % as a stable dispersion in water	IBC520	3119	Test A.1, 16 cm, No	<2170kP, No	0.0 mm/s, No	<1.0mm ("O"), No	<1 mm (10g) Low	F.5 15.28 J/g, Low	H.3 IBC, 25 °C	NL TNO 19EM/0053