|  |  |  |  |
| --- | --- | --- | --- |
|  | United Nations | ST/SG/AC.10/C.3/2021/33 | |
| _unlogo | **Secretariat** | | Distr.: General  23 August 2021  Original: English |

**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-ninth session**

Geneva, 29 November-8 December 202  
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]](#footnote-2)

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.

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 ºC | +15 ºC |

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 |

1. A/75/6 (Sect.20), para. 20.51 [↑](#footnote-ref-2)