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**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****Forty-second session**

Geneva, 3 – 11 December 2012

Item 7 of the provisional agenda

**New proposals for amendments to the Model Regulations  
on the Transport of Dangerous Goods****Organic peroxides****New formulations to be listed in 2.5.3.2.4 and IBC520****Transmitted by the International Council of Chemical Association  
(ICCA)<sup>1</sup>****Introduction**

1. Since several new peroxides and formulations have become commercially available, there is a need to update 2.5.3.2.4 and IBC520. A list of new products, proposed classification, the accompanying competent authority approval references and a summary of the supporting test data are given in Annex to this proposal.

**Proposals**

2. ICCA proposes to include two amended entries and a correction in 2.5.3.2.4, list of currently assigned organic peroxides, as indicated in 3. Further, ICCA proposes to include two changes in packaging IBC520, as indicated in 4.

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<sup>1</sup> In accordance with the programme of work of the Sub-Committee for 2011-2012 approved by the Committee at its fifth session (refer to ST/SG/AC.10/C.3/76, para. 116 and ST/SG/AC.10/38, para. 16).

## 3: Proposed amendments to 2.5.3.2.4 List of currently assigned organic peroxides:

| ORGANIC PEROXIDE   | Concentration (%) | Diluent type A (%) | Diluent type B <sup>1)</sup> (%) | Inert solid (%) | Water (%) | Packing Method | Control temperature (°C) | Emergency temperature (°C) | Number (Generic entry) | Subsidiary risks and remarks |
|--|-------------------|--------------------|----------------------------------|-----------------|-----------|----------------|--------------------------|----------------------------|------------------------|------------------------------|
| Correct:<br>DIBENZOYL PEROXIDE   | >51 - 100         |                    |                                  | ≤ 48            |           | OP2            |                          |                            | 3102                   | 3)                           |
| Into<br>DIBENZOYL PEROXIDE<br>Remark: typing error since 8th revision  | >52 - 100         |                    |                                  | ≤ 48            |           | OP2            |                          |                            | 3102                   | 3)                           |
| Change:<br>DICETYL PEROXYDICARBONATE   | ≤ 100             |                    |                                  |                 |           | OP7            | +30                      | +35                        | 3116                   |                              |
| Into<br>DICETYL PEROXYDICARBONATE  | ≤ 100             |                    |                                  |                 |           | OP8            | +30                      | +35                        | 3120                   |                              |
| tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE   | >32-100           |                    | ≥ 68                             |                 |           | OP7            |                          |                            | 3105                   |                              |
|  | ≤ 32              |                    |                                  |                 |           | OP8            |                          |                            | 3109                   |                              |
| Into<br>tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE   | >37-100           |                    | ≥ 63                             |                 |           | OP7            |                          |                            | 3105                   |                              |
|  | ≤ 37              |                    |                                  |                 |           | OP8            |                          |                            | 3109                   |                              |
| Remark: This change is proposed because in packing instruction IBC520, this product with a concentration of ≤ 37% is already listed as UN 3109 |                   |                    |                                  |                 |           |                |                          |                            |                        |                              |

## 4. Proposed amendments to packing instruction IBC520:

| <i>UN No.</i> | <i>Organic peroxide</i>  | <i>Type of IBC</i> | <i>Maximum<br/>quantity<br/>(litres)</i> | <i>Control<br/>temperature</i> | <i>Emergency<br/>Temperature</i> |
|---------------|--|--------------------|--|--------------------------------|----------------------------------|
| <b>3119</b>   | <b>ORGANIC PEROXIDE TYPE F,<br/>LIQUID, TEMPERATURE<br/>CONTROLLED</b>                 |                    |  |                                |                                  |
|               | <b>Add new entry:</b>  |                    |  |                                |                                  |
|               | 1,1,3,3-Tetramethylbutyl peroxy-2-ethylhexanoate, not more than 67%, in diluent type A | 31HA1              | 1000                                     | +15 °C                         | +20 °C                           |
|               | <b>Add to existing entry:</b>  |                    |  |                                |                                  |
|               | Di-(2-ethylhexyl) peroxydicarbonate, not more than 62%, stable dispersion, in water    | 31HA1              | 1000                                     | -20 °C                         | -10 °C                           |

## Annex: Test results of new organic peroxides and formulations to be added/amended (2.5.3.2.4 or IBC520)

| <i>No</i> | <i>Product</i>   | <i>packaging</i> | <i>UN No.</i> | <i>Detonation</i>                      | <i>P/T / C.1</i>         | <i>Deflagration / C.2</i> | <i>Koenen/ E.1</i>              | <i>DPVT/ E.2</i>          | <i>(mod) Trauzl F.3 or F.4</i> | <i>SADT (H.3 or H.4)</i> | <i>Competent Authority approval number</i> |
|-----------|--|------------------|---------------|--|--------------------------|---------------------------|---------------------------------|---------------------------|--------------------------------|--------------------------|--|
| 1         | Dicetyl peroxydicarbonate, ≤100%   | OP8              | 3120          | Test A.1<br>No<br>propagation          | <2170kPa,<br>No          | 0.0 mm/s,<br>No           | < 1mm<br>("O"),<br>No           | <1.0 mm<br>(10g),<br>Low  | n.a.                           | H.4<br>40 °C<br>(400ml)  | NL TNO 12EM/562                            |
| 2         | Di-(2-ethylhexyl) peroxydicarbonate, not more than 62%, stable dispersion, in water    | 31HA1            | 3119          | Test A.1<br>No<br>propagation          | <2170kPa,<br>No          | 0.0 mm/s,<br>No           | <1.0mm<br>("O"),No              | 1.0 mm<br>(50g),<br>Low   | F.4<br>0.4 ml,<br>Low          | H.3<br>0 °C              | NL TNO<br>08DV3/2133                       |
| 3         | 1,1,3,3-Tetramethylbutyl peroxy-2-ethylhexanoate, not more than 67%, in diluent type A | 31HA1            | 3119          | Test A.6<br>No<br>propagation<br>(90%) | <2170kPa,<br>No<br>(94%) | 0.33 mm/s,<br>No<br>(70%) | <1 mm<br>("A"),<br>Low<br>(70%) | < 3.5 mm,<br>Low<br>(70%) | F.4<br>4 ml,<br>Low<br>(70%)   | H.3<br>+30 °C<br>(65%)   | NL TNO 11<br>HPE/612                       |