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**COMMITTEE OF EXPERTS ON THE TRANSPORT
OF DANGEROUS GOODS**

**Sub-Committee of Experts on the
Transport of Dangerous Goods**
(Eighteenth session, 3-14 July 2000,
agenda item 5 (h))

**MISCELLANEOUS DRAFT AMENDMENTS TO THE MODEL REGULATIONS
ON THE TRANSPORT OF DANGEROUS GOODS**

Organic peroxides/Self-reactive substances

Proposal to add a substance to the list in 2.5.3.2.4

Transmitted by the expert from Japan

A new formulation of organic peroxide listed hereunder meet the criteria of UN No. 3115 type D as showed in the Test Report annexed. Approval for the sea transport of the products have already been granted by Japanese Ministry of Transport.

It is proposed to add the product to the list of currently assigned organic peroxide in 2.5.3.2.4. in order to permit it transport in the appropriate conditions.

Proposal

Add the following formulation in the table of currently assigned organic peroxide in 2.5.3.2.4.:

ORGANIC PEROXIDE : DIISOPROPYLPEROXYDICARBONATE

Concentration(%) :	#28
Diluent type A(%) :	\$72
Diluent type B(%) :	-
Inert solid(%) :	-
Water(%) :	-
Packing Method :	OP7
Control Temperature :	! 15
Emergency Temperature :	! 5
Number(Generic entry) :	3115
Subsidiary risk and remarks :	-

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Annex

TEST REPORT

1. Name of the organic peroxide: DIISOPROPYL PEROXYDICARBONATE not more than 28% in solvent A minimum 72%

2. General data
 - 2.1 Composition : 28% Diisopropyl peroxydicarbonate , 72% diluent type A
 - 2.2 Molecular formula : C₈H₁₄O₆
 - 2.3 Active Oxygen Content : 2.17%
 - 2.4 Physical form : Liquid
 - 2.5 Colour : Colourless
 - 2.6 Density : 1156 kg/m³ (0EC)

3. Detonation (test series A)
 - Box 1 of the flow chart : Does the peroxide propagate a detonation?
 - 3.1 Method : BAM 50/60 steel tube test (test A.1)
 - 3.2 Sample conditions : 20EC
 - 3.3 Observations : Fragmented part of the tube: 8.5 and 16.3 cm
 - 3.4 Result : No
 - 3.5 Exit : 1.3

4. Deflagration (test series C)
 - Box 5 of the flow chart : Does the peroxide propagate a deflagration?
 - 4.1 Method 1 : Time/pressure test (test C.1)
 - 4.2 Sample conditions : Ambient temperature
 - 4.3 Observations : Time 1300 ms
 - 4.4 Result : Yes, slowly
 - 4.5 Method 2 : Deflagration test (test C.2)
 - 4.6 Sample conditions : 10.2EC
 - 4.7 Observations : Deflagration rate 0.55 mm/s
 - 4.8 Result : Yes, slowly
 - 4.9 Final result : Yes, slowly
 - 4.10 Exit : 5.2

5. Heating under confinement (test series E)

- Box 8 of the flow chart : What is the effect of heating it under defined confinement?
- 5.1 Method 1 : Koenen test (test E.1)
- 5.2 Sample conditions : Mass 32.8 g
- 5.3 Observations : Limiting diameter less than 1.0 mm
fragmentation type "A"
- 5.4 Result : Low
- 5.5 Method 2 : Dutch pressure vessel test (test E.2)
- 5.6 Sample conditions : Sample weight 10g
- 5.7 Observations : Limiting diameter 1.5 mm
- 5.8 Result : Low
- 5.9 Final result : Low
- 5.10 Exit : 8.3

6. Thermal stability (outside of the flow chart: test series H)

- 6.1 Method : Heat accumulation storage test (test H.4)
- 6.2 Sample conditions : Mass 400 cc
: half time of cooling of dewar vessel is 4.5 hours
- 6.3 Observations : at 0EC no exothermal reaction within 4 weeks
: at 5EC temperature rise up to 53 EC after 555 hours,
SADT 5EC
- 6.4 Result : Control temperature required

7. Corrosiveness (outside of the flow chart)

- 7.1 Method 1 : Acute dermal irritation/corrosion test (rabbit)
- 7.2 Observation : After 14 days, no full destruction of intact skin is detected
- 7.3 Result : Not corrosive
- 7.4 Method 2 : Corrosion rate on steel at 55EC
- 7.5 Observation and result : Because of decomposition, this test is impossible
- 7.6 Final result : Not corrosive

- 8. General remarks : The classification scheme is given in Fig.1

9. Proposed assignment

9.1 Proper shipping name	: ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED
9.2 UN number	: 3115
9.3 Division	: 5.2
9.4 Technical name	: DIISOPROPYL PEROXYDICARBONATE not more than 28% in solvent A minimum 72%
9.5 Concentration	: #28 %
9.6 Diluent(s)	: Diluent type A
9.7 Subsidiary risks	: None
9.8 Packing group	: -
9.9 Packing Method	: OP 7
9.10 Control temperature	: ! 15EC
9.11 Emergency temperature	: ! 5EC

Figure 1

