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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

```
· 1.1 Product identifier
```

the mixture

## PEROXAN ME-50 LS-PX

· Trade name: 1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available. · Application of the substance /

Reaction initiator For industrial use

| <ul> <li>1.3 Details of the supplier of the</li> <li>Manufacturer/Supplier:</li> </ul>                    | safety data sheet<br>PERGAN GmbH<br>Hilfsstoffe für industrielle Prozesse<br>Schlavenhorst 71<br>D-46395 Bocholt<br>Tel: +49 2871 9902-0<br>Fax: +49 2871 9902-50 |
|---|---|
| <ul> <li>Further information obtainable<br/>from:</li> <li>1.4 Emergency telephone<br/>number:</li> </ul> | Qualified person: E-mail: msds@pergan.com<br>- Tel: +49 2871 9902-0   |

## **SECTION 2: Hazards identification**

### · 2.1 Classification of the substance or mixture

| • Classification according to Regulation (EC) No 1272/2008 |       |  |  |
|--|-------|--|--|
| Org. Perox. D  | H242  | Heating may cause a fire.                          |  |
| Acute Tox. 4   | H332  | Harmful if inhaled.                                |  |
| Skin Corr. 1B  | H314  | Causes severe skin burns and eye damage.           |  |
| Eye Dam. 1   | H318  | Causes serious eye damage.                         |  |
| Repr. 2  | H361d | Suspected of damaging the unborn child.            |  |
| Aquatic Chronic 3  | H412  | Harmful to aquatic life with long lasting effects. |  |

### · 2.2 Lahel elemente

| <ul> <li>2.2 Label elements</li> <li>Labelling according to<br/>Regulation (EC) No 1272/2008</li> <li>Hazard pictograms</li> </ul> | The product is clas | sified and labelled according to the CLP regulation.  |                    |
|--|---------------------|---|--------------------|
|  | GHS02 GHS05 GH      | IS07 GHS08  |                    |
| · Signal word  | Danger              |   |                    |
| <ul> <li>Hazard-determining<br/>components of labelling:</li> </ul>  |                     |   |                    |
| · Hazard statements  | H361d Suspected     |   |                    |
| · Precautionary statements   | P210<br>P220        | Keep away from heat, hot surfaces, sparks, open flames and other ignit<br>smoking.<br>Keep away from dirt, rust, chemicals in particular concentrated acids, al |                    |
|  | P234                | accelerators (e. g. heavy metal compounds and amines).  |                    |
|  |                     | Keep only in original packaging.<br>Wash thoroughly after handling.   |                    |
|  | P280                | Wear protective gloves/protective clothing/eye protection/face protection<br>protection.  | 1/hearing          |
|  |                     | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Ri<br>water [or shower].  | nse skin with      |
|  |                     | IF IN EYES: Rinse cautiously with water for several minutes. Remove c present and easy to do. Continue rinsing.   | ontact lenses, if  |
|  | P310                | Immediately call a POISON CENTER/doctor.  |                    |
|  | P405                | Store locked up.  |                    |
|  | P410                | Protect from sunlight.  |                    |
|  | P411+P235           | Store at temperatures not exceeding +30°C. Keep cool.   |                    |
|  | P420                | Store separately.   |                    |
|  |                     | Dispose of contents/container in accordance with local/regional/national regulations.   | /international     |
| · Additional information:  |                     | Reportable explosives precursors. Making available, introduction, posses ation (EU) 2019/1148, Article 9.   | sion and use       |
|  |                     | ( - / - · · · · · · · · · · · · · · · · ·   | (Contd. on page 2) |

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| · 2.3 Other hazards      | (Con  | td. of page 1) |
|--------------------------|---|----------------|
| · Results of PBT and vPv | B assessment  |                |
| · PBT:                   | The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex X | III.           |
| · vPvB:                  | The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex X | III.           |
| · Determination of endoc | rine-disrupting properties  |                |
| 78-93-3 butanone         |   | List II        |

### **SECTION 3: Composition/information on ingredients**

### · 3.2 Mixtures

| <ul> <li>Dangerous components:</li> </ul>   |  |        |
|---|--|--------|
| CAS: 6846-50-0<br>EINECS: 229-934-9<br>Reg-No.: 01-2119451093-47                              | 1-isopropyl-2,2-dimethyltrimethylene diisobutyrate<br>Repr. 2, H361d; Aquatic Chronic 3, H412  | 40-50% |
| CAS: 1338-23-4<br>EC number: 700-954-4<br>Reg-No.: 01-2119514691-43                           | Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane<br>Org. Perox. D, H242; Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H332   | 30-40% |
| CAS: 123-42-2<br>EINECS: 204-626-7<br>Index number: 603-016-00-1<br>Reg-No.: 01-2119473975-21 | 4-hydroxy-4-methylpentan-2-one<br>Flam. Liq. 3, H226; Repr. 2, H361d; Eye Irrit. 2, H319; STOT SE 3, H335<br>Specific concentration limit: Eye Irrit. 2; H319: C ≥ 10 %  | 5-20%  |
| CAS: 78-93-3<br>EINECS: 201-159-0<br>Index number: 606-002-00-3<br>Reg-No.: 01-2119457290-43  | butanone<br>Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066  | 1-5%   |
|   | hydrogen peroxide solution         Ox. Liq. 1, H271; Skin Corr. 1A, H314; Acute Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H335;         Aquatic Chronic 3, H412         Specific concentration limits: Skin Corr. 1A; H314: C ≥ 70 %         Skin Corr. 1B; H314: C ≥ 70 %         Skin Corr. 1B; H314: C ≥ 70 %         Skin Irrit. 2; H315: 35 % ≤ C < 70 % | 1-5%   |
| CAS: 102-82-9<br>EINECS: 203-058-7<br>Reg-No.: 01-2119474898-14                               | tributylamine<br>Acute Tox. 3, H311; Acute Tox. 1, H330; Acute Tox. 4, H302; Skin Irrit. 2, H315   | 0,1-1% |
| · Additional information:   | For the wording of the listed hazard phrases refer to section 16.  |        |

### **SECTION 4: First aid measures**

| · 4.1 Description of first aid measures             |  |  |  |
|---|--|--|--|
| General information:                                | Immediately remove any clothing soiled by the product.   |  |  |
|   | Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48      |  |  |
|   | hours after the accident.  |  |  |
|   |  |  |  |
|   | Take care of personal protection for the first aider.  |  |  |
|   | Take care of personal protection for the first alder.  |  |  |
| · After inhalation:                                 | Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms |  |  |
|   | persist.   |  |  |
|   | In case of unconsciousness place patient stably in side position for transportation.                         |  |  |
|   |  |  |  |
| • • • • •   | Take affected persons into fresh air and keep quiet.   |  |  |
| <ul> <li>After skin contact:</li> </ul>             | Immediately wash with water and soap and rinse thoroughly.   |  |  |
|   | Immediately remove contaminated clothing.  |  |  |
| After eye contact:                                  | Rinse opened eye for several minutes under running water. Then consult a doctor.                             |  |  |
| After swallowing:                                   | Drink plenty of water and provide fresh air. Call for a doctor immediately.                                  |  |  |
| 4.2 Most important symptoms                         |  |  |  |
| and effects, both acute and                         |  |  |  |
| ,   | No. 6 with an under some the former of the former of the late  |  |  |
| delayed   | No further relevant information available.   |  |  |
| <ul> <li>4.3 Indication of any immediate</li> </ul> |  |  |  |
| medical attention and special                       |  |  |  |
| treatment needed                                    | No further relevant information available.   |  |  |
|   | IE   |  |  |



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### SECTION 5: Firefighting measures

• 5.1 Extinguishing media

| · Suitable extinguishing agents:                     | CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.                                  |
|--|---|
| <ul> <li>5.2 Special hazards arising from</li> </ul> |   |
| the substance or mixture                             | Under certain fire conditions, traces of other toxic gases cannot be excluded.<br>Hydrocarbons, carbondioxide and -monoxid. |
| <ul> <li>5.3 Advice for firefighters</li> </ul>      |   |
| · Protective equipment:                              | Mouth respiratory protective device.  |
|  | Do not inhale explosion gases or combustion gases.  |
| · Additional information                             | Cool endangered receptacles with water spray.<br>Self-protection first!   |

### **SECTION 6: Accidental release measures**

| <ul> <li>6.1 Personal precautions,<br/>protective equipment and<br/>emergency procedures</li> </ul> | Keep away from ignition sources.<br>In case of further temperature should be cooled with waterspray from a safe distance.<br>Wear breathing apparatus with filter A during decomposition of materials.<br>Wear protective equipment. Keep unprotected persons away. |
|---|---|
| · 6.2 Environmental precautions:  | Inform respective authorities in case of seepage into water course or sewage system.  |
|   | Do not allow to enter sewers/ surface or ground water.  |
| • 6.3 Methods and material for  |   |
| containment and cleaning up:  | Dispose contaminated material as waste according to section 13.   |
|   | Ensure adequate ventilation.  |
|   | Large quantities should be diluted with suitable desensitation agent to a concentration below 10 % before disposal.   |
|   | Soak up with absorbant material (e. g. Vermiculit) and dispose of in accordance with government<br>regulations.   |
| · 6.4 Reference to other sections   | See Section 7 for information on safe handling.   |
|   | See Section 8 for information on personal protection equipment.   |
|   | See Section 13 for disposal information.  |
|   | In case of large spillage the environmental authority should be informed.   |
|   |   |

### **SECTION 7: Handling and storage**

| · 7.1 Precautions for safe                       |  |  |
|--|--|--|
| handling   | Keep away from heat and direct sunlight.   |  |
|  | Ensure good ventilation/exhaustion at the workplace.   |  |
|  | Open and handle receptacle with care.  |  |
|  | Prevent formation of aerosols.   |  |
|  | Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.   |  |
|  | Do not refill residue into storage receptacles.<br>Restrict the quantity stored at the work place.           |  |
|  | Use only in well ventilated areas.   |  |
|  | Before break and at the end of work hands should be thoroughly washed.                                       |  |
|  | Only use tools made of suitable materials (e. g. polyethylene or stainless steel).                           |  |
|  | Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e.g. heavy- |  |
|  | metal compounds and amines).   |  |
|  | Avoid contact with skin and eyes.  |  |
|  | While using do not eat, drink or smoke.  |  |
|  | Avoid shock and friction.  |  |
|  | Do not smoke.  |  |
|  |  |  |
| <ul> <li>Information about fire - and</li> </ul> | _  |  |
| explosion protection:                            | Protect from heat.   |  |
|  | Prevent impact and friction.   |  |
|  | Fumes can combine with air to form an explosive mixture.   |  |
|  | Wear shoes with conductive soles.  |  |
|  |  |  |
|  | Avoid open flomes, sporks, direct suplicity and other sources of ignition                                    |  |
|  | Avoid open flames, sparks, direct sunlight and other sources of ignition.                                    |  |



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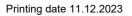
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|   | (Contd. of page 3)   |
|---|--|
| · 7.2 Conditions for safe storage,            | including any incompatibilities  |
| · Storage:                                    | Pay attention to the special requirements of your local autorithies for storing dangerous goods. |
| Requirements to be met by                     |  |
| storerooms and receptacles:                   | Store only in the original receptacle.   |
| -   | Prevent any seepage into the ground.   |
|   | Use only receptacles specifically permitted for this substance/product.                          |
| Information about storage in                  |  |
| one common storage facility:                  | Do not store or park organic peroxide together with heavy metal compounds and amines.            |
|   | Store away from foodstuffs, drinks and feeding stuffs.   |
| <ul> <li>Further information about</li> </ul> |  |
| storage conditions:                           | Keep container tightly sealed.   |
|   | Protect from heat and direct sunlight.   |
|   | Protect from contamination.  |
|   | Store under lock and key and out of the reach of children.                                       |
| <ul> <li>Recommended storage</li> </ul>       |  |
| temperature (To maintain                      |  |
| quality):                                     | 0 +30 °C   |
| <ul> <li>Storage class:</li> </ul>            | 5.2  |
| <ul> <li>7.3 Specific end use(s)</li> </ul>   | No further relevant information available.   |

### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters · Ingredients with limit values that require monitoring at the workplace: 123-42-2 4-hydroxy-4-methylpentan-2-one OEL (Ireland) Long-term value: 240 mg/m<sup>3</sup>, 50 ppm WEL (Great Britain) Short-term value: 362 mg/m<sup>3</sup>, 75 ppm Long-term value: 241 mg/m<sup>3</sup>, 50 ppm 78-93-3 butanone OEL (Ireland) Short-term value: 900 mg/m<sup>3</sup>, 300 ppm Long-term value: 600 mg/m³, 200 ppm Sk, IOELV Short-term value: 900 mg/m³, 300 ppm IOELV (EU) Long-term value: 600 mg/m<sup>3</sup>, 200 ppm WEL (Great Britain) Short-term value: 899 mg/m<sup>3</sup>, 300 ppm Long-term value: 600 mg/m<sup>3</sup>, 200 ppm Sk, BMGV 7722-84-1 hydrogen peroxide solution Short-term value: 3 mg/m<sup>3</sup>, 2 ppm OEL (Ireland) Long-term value: 1,5 mg/m3, 1 ppm WEL (Great Britain) Short-term value: 2,8 mg/m<sup>3</sup>, 2 ppm Long-term value: 1,4 mg/m<sup>3</sup>, 1 ppm · DNELs 6846-50-0 1-isopropyl-2,2-dimethyltrimethylene diisobutyrate DNEL Longterm System 5 mg/kg bw/day (Worker) Dermal Inhalative DNEL Longterm System 17,62 mg/m3 (Worker) 1338-23-4 Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane Dermal DNEL Longterm System 1,43 mg/kg bw/day (Worker) Inhalative DNEL Acute Systemic 7,55 mg/m3 DNEL Longterm System 2,52 mg/m3 (Worker) 123-42-2 4-hydroxy-4-methylpentan-2-one DNEL Longterm System 467 mg/kg bw/day (Worker) Dermal Inhalative DNEL Longterm System 32,6 mg/m3 (Worker) 78-93-3 butanone DNEL Longterm System 1.161 mg/kg bw/day (Worker) Dermal Inhalative DNEL Longterm System 600 mg/m3 (Worker) 7722-84-1 hydrogen peroxide solution Inhalative DNEL Longterm Local 1,4 mg/m3 (Worker) 102-82-9 tributylamine Inhalative DNEL Acute Systemic 10,6 mg/m3 (Worker) DNEL Longterm System 5,3 mg/m3 (Worker) (Contd. on page 5)

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| DNEL Longte                                    | erm Local 15,2 mg/m3 (Worker) (Contd. of page   |
|--|---|
| ·PNECs   |   |
| 6846-50-0 1-isopropyl-2                        | 2,2-dimethyltrimethylene diisobutyrate  |
| PNEC Marinewater sed                           |   |
| PNEC Freshwater                                | 0,014 mg/l (AF 50)  |
| PNEC Freshwater sed                            | 5,29 mg/kg sed dw   |
| PNEC Soil                                      | 1,05 mg/kg soil dw  |
| PNEC STP                                       | 3 mg/l (AF 10)  |
| PNEC Marinewater                               | 0,001 mg/l (AF 500)   |
| 1338-23-4 Reaction ma                          | ss of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane   |
| PNEC Marinewater sed                           | 0,009 mg/kg sed dw  |
| PNEC Freshwater                                | 0,006 mg/l (AF 1.000)   |
| PNEC Freshwater sed                            | 0,088 mg/kg sed dw  |
| PNEC Soil                                      | 0,014 mg/kg soil dw   |
| PNEC STP                                       | 1,2 mg/l (AF 10)  |
| PNEC Marinewater                               | 0,001 mg/l (AF 10.000)  |
| 123-42-2 4-hydroxy-4-m                         | nethylpentan-2-one  |
| PNEC Marinewater sed                           |   |
| PNEC Freshwater                                | 2 mg/l (AF 50)  |
| PNEC Freshwater sed                            | 7,4 mg/kg sed dw  |
| PNEC Soil                                      | 0,31 mg/kg soil dw  |
| PNEC STP                                       | 100 mg/l (AF 10)  |
| PNEC Marinewater                               | 0,2 mg/l (AF 500)   |
| 7722-84-1 hydrogen pe                          |   |
| PNEC Marinewater sed                           |   |
| PNEC Freshwater                                | 0,013 mg/l (AF 50)  |
| PNEC Freshwater sed                            | 0,047 mg/kg sed dw  |
| PNEC Soil                                      | 0,002 mg/kg soil dw   |
| PNEC STP                                       | 4,66 mg/l (AF 100)  |
| PNEC Marinewater                               | 0,013 mg/l (AF 50)  |
| 102-82-9 tributylamine                         |   |
| PNEC Marinewater sed                           |   |
| PNEC Freshwater                                | 0,008 mg/l (AF 1.000)   |
| PNEC Freshwater sed                            | 35,85 mg/kg sed dw  |
| PNEC Soil                                      | 7,17 mg/kg soil dw  |
| PNEC STP                                       | 100 mg/l (AF 1)   |
| PNEC Marinewater                               | 0,0008 mg/l (AF 10.000)   |
| · Ingredients with biolo                       | ogical limit values:  |
| 78-93-3 butanone                               |   |
| BMGV (Great Britain) 7                         |   |
|  | fedium: urine   |
|  | ampling time: post shift<br>arameter: butan-2-one   |
| · Additional informatio                        |   |
|  |   |
| 8.2 Exposure controls<br>Appropriate engineeri |   |
| controls                                       | No further data; see section 7.   |
|  | measures, such as personal protective equipment   |
| · General protective an                        |   |
| hygienic measures:                             | The usual precautionary measures are to be adhered to when handling chemicals.                            |
|  | Keep away from foodstuffs, beverages and feed.<br>Immediately remove all soiled and contaminated clothing |
|  | Wash hands before breaks and at the end of work.  |
|  | Store protective clothing separately.   |
|  | Avoid contact with the eyes and skin.   |
|  | Do not eat, drink, smoke or sniff while working.  |
|  | Use skin protection cream for skin protection.  |
|  |   |
| · Respiratory protectio                        | Be sure to clean skin thoroughly after work and before breaks.  |
| · Respiratory protectio                        | Be sure to clean skin thoroughly after work and before breaks.  |



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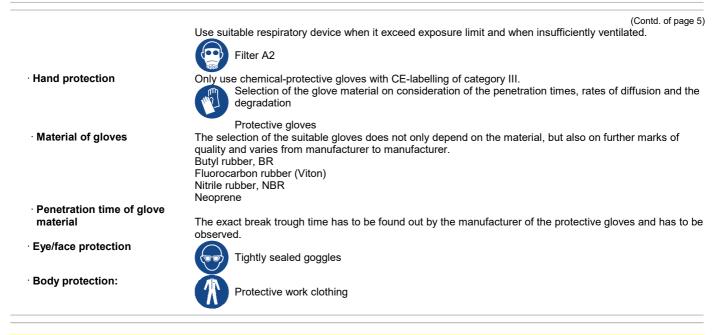
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### SECTION 9: Physical and chemical properties

| · 9.1 Information on basic physical and chemical properties           |  |
|---|--|
| General Information   |  |
| · Physical state  | Fluid  |
| · Colour:   | Colourless   |
| · Odour:  | Characteristic   |
| Odour threshold:  | Not determined.  |
| • Melting point/freezing point:                                       | Not applicable.  |
| · Boiling point or initial boiling point and boiling range            | Not applicable.  |
| · Flammability  | May cause fire.  |
| · Lower and upper explosion limit                                     | May cause life.  |
| · Lower:  | Not determined.  |
|   | Not determined.  |
| · Flash point:  | > SADT   |
|   |  |
| Decomposition temperature:  | +60 °C (SADT)<br>Not determined.   |
| · pH  | Not determined.  |
| Viscosity:  |  |
| Kinematic viscosity   | Not determined.  |
| Dynamic:  | Not determined.  |
| · Solubility  |  |
| · water:  | Undetermined.  |
| <ul> <li>Partition coefficient n-octanol/water (log value)</li> </ul> | not determined   |
|   | Not determined.  |
| · Vapour pressure:  | Not determined.  |
| Density and/or relative density                                       |  |
| · Density at 20 °C:   | 1,01 g/cm <sup>3</sup>   |
| · Relative density  | Not determined.  |
| · Vapour density  | Not determined.  |
| · 9.2 Other information   |  |
| · Appearance:   |  |
| · Form:   | Fluid  |
| · Important information on protection of health and environment,      |  |
| and on safety.  |  |
| · Ignition temperature:   | Draduat is not colfigniting  |
| · Explosive properties:   | Product is not selfigniting.<br>Product is not explosive. However, formation of explosive air/vapour |
| Explosive properties.   |  |
| Change in condition   | mixtures are possible.   |
| Change in condition   | Net determined   |
| · Evaporation rate  | Not determined.  |
| Information with regard to physical hazard classes                    |  |
| Explosives  | Void   |
| · Flammable gases   | Void   |
|   | (Contd. on page 7)   |
|   | (Conta: on page 7)   |

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|  |                           | (Contd. of page 6 |
|--|---------------------------|-------------------|
| · Aerosols   | Void                      |                   |
| · Oxidising gases                                  | Void                      |                   |
| · Gases under pressure                             | Void                      |                   |
| Flammable liquids                                  | Void                      |                   |
| Flammable solids                                   | Void                      |                   |
| Self-reactive substances and mixtures              | Void                      |                   |
| · Pyrophoric liquids                               | Void                      |                   |
| Pyrophoric solids                                  | Void                      |                   |
| Self-heating substances and mixtures               | Void                      |                   |
| · Substances and mixtures, which emit flammable ga | ases in                   |                   |
| contact with water                                 | Void                      |                   |
| · Oxidising liquids                                | Void                      |                   |
| • Oxidising solids                                 | Void                      |                   |
| Organic peroxides                                  | Heating may cause a fire. |                   |
| · Corrosive to metals                              | Void                      |                   |
| Desensitised explosives                            | Void                      |                   |
| Other safety characteristics                       |                           |                   |
| Active oxygen                                      | 8,8 - 9,3 %               |                   |

## SECTION 10: Stability and reactivity

| <ul> <li>10.1 Reactivity</li> <li>10.2 Chemical stability</li> <li>Thermal decomposition /</li> </ul> | No further relevant information available.  |
|---|---|
| conditions to be avoided:   | SADT (Self Accelerating Decomposition Temperature) is the lowest temperature at which self accelerating decomposition may occur with substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be cause decomposition at and above the temperature. Contact with incompatible substances can cause decomposition at or below the SADT.<br>No decomposition if used and stored according to specifications.<br>To avoid thermal decomposition do not overheat. |
| · 10.3 Possibility of hazardous   |   |
| reactions   | Self-accelerating decomposition at SADT.  |
| 10.4 Conditions to avoid  | No further relevant information available.  |
| · 10.5 Incompatible materials:  | Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).   |
| · 10.6 Hazardous decomposition  |   |
| products:   | Hydrocarbons, carbondioxide and -monoxid.<br>No hazardous decomposition products if used and stored according to specifications.  |
| · Additional information:   | Emergency procedures will vary depending on conditions. The customer should have an emergency response plane in place.  |

### **SECTION 11: Toxicological information**

|                     | -  |   |  |
|---------------------|--|---|--|
| 11.1 Inf<br>Acute 1 |  | ses as defined in Regulation (EC) No 1272/2008<br>Harmful if inhaled. |  |
| · LD/LC             | 50 values relevant for cl  | assification:   |  |
| 6846-50             | -0 1-isopropyl-2,2-dimet   | hyltrimethylene diisobutyrate   |  |
| Oral                | LD50 3.200 mg/kg (rattu  | s)  |  |
| Dermal              | LD50 18.900 mg/kg (cav   | iinae)  |  |
| 1338-23             | 1338-23-4 Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane |   |  |
| Oral                | LD50 1.017 mg/kg (rattu  | s)  |  |
| 123-42-             | 2 4-hydroxy-4-methylpen  | itan-2-one  |  |
| Oral                | LD50 3.002 mg/kg (rattu  | s)  |  |
| 102-82-             | 9 tributylamine  |   |  |
| Oral                | LD50 540 mg/kg (rattus)  |   |  |
| Dermal              | LD50 250 mg/kg (cunicu   | losus)  |  |
| · Skin co           | orrosion/irritation  | Causes severe skin burns and eye damage.                              |  |
|                     | s eye damage/irritation  | Causes serious eye damage.  |  |
| Respiratory or skin |  |   |  |
| sensiti             |  | Based on available data, the classification criteria are not met.     |  |
|                     | cell mutagenicity  | Based on available data, the classification criteria are not met.     |  |
|                     | ogenicity  | Based on available data, the classification criteria are not met.     |  |
| •                   | ductive toxicity   | Suspected of damaging the unborn child.                               |  |
| · STOT-             | single exposure  | Based on available data, the classification criteria are not met.     |  |
|                     |  | (Contd. on page 8   |  |



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| STOT-repeated exposure<br>Aspiration hazard<br>11.2 Information on other haz | Based on available data, the classification criteria are not met.<br>Based on available data, the classification criteria are not met.<br>ards | (Contd. of page        |
|--|--|------------------------|
| Endocrine disrupting propert   | ies  |                        |
| 78-93-3 butanone   |  | List I                 |
| SECTION 12: Ecological in  | formation  |                        |
| 12.1 Toxicity  |  |                        |
| Aquatic toxicity:  |  |                        |
| 1338-23-4 Reaction mass of b   | utane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane   |                        |
| LC50 / 96h   44,2 mg/l (-)   |  |                        |
| 78-93-3 butanone   |  |                        |
| LC50 / 96h 3.220 mg/l (pimeph  | ales promelas)   |                        |
| EC50 / 48h 5.091 mg/l (daphnia   |  |                        |
| 12.2 Persistence and degrada<br>Degree of elimination:                       |  |                        |
| · Classification:  |  |                        |
|  | ethyltrimethylene diisobutyrate  |                        |
|  | dable, failing 10-d wind) (OECD 301 B)   |                        |
|  | utane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane   |                        |
| Degradation (Readily biodegra  |  |                        |
| 123-42-2 4-hydroxy-4-methylp   |  |                        |
| Degradation (Readily biodegra  | dable) (OECD 301 A)  |                        |
| 78-93-3 butanone   |  |                        |
| Degradation (Readily biodegra  | dable) (OECD 301 D)  |                        |
| 7722-84-1 hydrogen peroxide  |  |                        |
| Degradation (Readily biodegra  | dable)   |                        |
| 102-82-9 tributylamine   |  |                        |
| Degradation (Readily biodegra  |  |                        |
| 12.3 Bioaccumulative potentia  |  |                        |
| · Partition coefficient: nOctan  |  |                        |
| 1338-23-4 Reaction mass of bu  | tane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane  | 2,04 (25°C             |
| 123-42-2 4-hydroxy-4-methylp   | entan-2-one  | -0,09 (20°C            |
| 78-93-3 butanone   |  | 0,3 (40°C)             |
| 7722-84-1 hydrogen peroxide s  | olution  | -1,57 (20°C            |
| 102-82-9 tributylamine   |  | 3,34 (25 °C            |
| Bioconcentration factor (BCF   |  |                        |
| 6846-50-0 1-isopropyl-2,2-dim  | ethyltrimethylene diisobutyrate  |                        |
| BCF 183-194 (piscis)   |  |                        |
| 102-82-9 tributylamine   |  |                        |
| BCF 7,3  |  |                        |
| 12.4 Mobility in soil<br>12.5 Results of PBT and vPvB                        | No further relevant information available.   |                        |
| PBT:   | The substances in the mixture do not meet the PBT/vPvB criteria according to   | REACH annex XIII       |
| vPvB:  | The substances in the mixture do not meet the PBT/vPvB criteria according to   |                        |
| 12.6 Endocrine disrupting  | 5  |                        |
| properties   | For information on endocrine disrupting properties see section 11.   |                        |
| 12.7 Other adverse effects<br>Remark:  | Harmful to fish  |                        |
| Additional ecological informa  |  |                        |
| · General notes:   | Must not reach sewage water or drainage ditch undiluted or unneutralised.  |                        |
|  | Harmful to aquatic organisms   | <b>,</b> .             |
|  | Water hazard class 1 (German Regulation) (Self-assessment): slightly hazard  |                        |
|  | Do not allow undiluted product or large quantities of it to reach ground water, v  | valer course or sewade |
|  | system.  | 5                      |

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Safety data sheet according to 1907/2006/EC, Article 31



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| 13.1 Waste treatment methods   |  |
|--|--|
| · Recommendation   | After diluting with a suitable desentisation agent to 10 %, the solution must be supplied to a speci treatment (e. g. thermal utilization) under observance of all official regulations. |
| <u>Z</u>   | Must not be disposed together with household garbage. Do not allow product to reach sewage   |
|  | system.<br>ease contact your hazardous waste disposers to assign the right EWC-(European waste catalog)-<br>umber.   |
| · Uncleaned packaging:<br>· Recommendation: Th   | nis material and its container must be disposed of as hazardous waste.   |
| SECTION 14: Transport informa  | ition  |
| 14.1 UN number or ID number<br>· ADR, IMDG, IATA   | UN3105   |
| 14.2 UN proper shipping name<br>ADR  | UN3105 ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL<br>KETONE PEROXIDE(S))  |
| · IMDG, IATA   | ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE<br>PEROXIDE(S))   |
| 14.3 Transport hazard class(es)  |  |
| · ADR  |  |
| · Class<br>· Label   | 5.2 (P1) Organic peroxides.<br>5.2   |
| · IMDG, IATA   |  |
| · Class<br>· Label   | 5.2 Organic peroxides.<br>5.2  |
| 14.4 Packing group<br>· ADR, IMDG, IATA  | Void   |
| 14.5 Environmental hazards:  | Not applicable.  |
| 14.6 Special precautions for user<br>· Hazard identification number (Ken<br>· Stowage Category<br>· Stowage Code | Warning: Organic peroxides.<br>nler code):<br>D<br>SW1 Protected from sources of heat.   |
| · Segregation Code   | SG35 Stow "separated from" SGG1-acids<br>SG36 Stow "separated from" SGG18-alkalis.<br>SG72 See 7.2.6.3.2.  |
| 14.7 Maritime transport in bulk acco   | ording to IMO instruments Not applicable.  |
| · Transport/Additional information:  |  |
| <ul> <li>ADR</li> <li>Limited quantities (LQ)</li> <li>Excepted quantities (EQ)</li> </ul>                       | 125 ml<br>Code: E0<br>Not permitted as Excepted Quantity   |
| <ul> <li>Transport category</li> <li>Tunnel restriction code</li> </ul>  | 2<br>D   |
| · RID / GGVSEB:  | like ADR   |
| · IMDG   |  |
| · Limited quantities (LQ)  | 125 ml<br>(Contd. on page 1  |

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**PERGAN** The Peroxide Company

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|  | (Con   | td. of page 9)       |
|--|--|----------------------|
| <ul> <li>Excepted quantities (EQ)</li> </ul>                   | Code: E0   |                      |
|  | Not permitted as Excepted Quantity   |                      |
|  |  |                      |
| SECTION 15: Regulatory inf                                     | formation  |                      |
|  |  |                      |
| · 15.1 Safety, health and environ                              | mental regulations/legislation specific for the substance or mixture                         |                      |
| Directive 2012/18/EU   |  |                      |
| <ul> <li>Named dangerous substance</li> <li>ANNEX I</li> </ul> | s<br>None of the ingredients is listed.  |                      |
| · Seveso category  | P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES                              |                      |
| · Qualifying quantity (tonnes) for                             | or   |                      |
| the application of lower-tier                                  | 50.1   |                      |
| requirements<br>· Qualifying quantity (tonnes) for             | 50 t   |                      |
| the application of upper-tier                                  |  |                      |
| requirements   | 200 t  |                      |
|  | O an littlement of methods in a D  |                      |
| 1907/2006 ANNEX XVII   | Conditions of restriction: 3   | <b>A A a a a a a</b> |
| II   | restriction of the use of certain hazardous substances in electrical and electronic equipmen | t – Annex            |
| None of the ingredients is listed.                             |  |                      |
| · REGULATION (EU) 2019/1148                                    |  |                      |
|  | OSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))        |                      |
| None of the ingredients is listed.                             |  |                      |
| Annex II - REPORTABLE EXP                                      | LOSIVES PRECURSORS   |                      |
| None of the ingredients is listed.                             |  |                      |
| · Regulation (EC) No 273/2004                                  | on drug precursors   |                      |
| 78-93-3 butanone   |  | 3                    |
| <ul> <li>Regulation (EC) No 111/2005<br/>precursors</li> </ul> | laying down rules for the monitoring of trade between the Community and third countries in   | drug                 |
| 78-93-3 butanone   |  | 3                    |
| ·  |  |                      |
|  |  |                      |

### **SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

| Relevant phrases                                | H225 Highly flammable liquid and vapour.   |
|---|--|
|   | H226 Flammable liquid and vapour.  |
|   | H242 Heating may cause a fire.   |
|   | H271 May cause fire or explosion; strong oxidiser.   |
|   | H272 May intensify fire; oxidiser.   |
|   | H302 Harmful if swallowed.   |
|   | H311 Toxic in contact with skin.   |
|   | H314 Causes severe skin burns and eye damage.  |
|   | H315 Causes skin irritation.   |
|   | H318 Causes serious eye damage.  |
|   | H319 Causes serious eye irritation.  |
|   | H330 Fatal if inhaled.   |
|   | H332 Harmful if inhaled.   |
|   | H335 May cause respiratory irritation.   |
|   | H336 May cause drowsiness or dizziness.  |
|   | H361d Suspected of damaging the unborn child.  |
|   | H412 Harmful to aquatic life with long lasting effects.  |
|   | EUH066 Repeated exposure may cause skin dryness or cracking.   |
| · Contact:                                      | Tel: +49 2871 9902-0   |
|   | E-mail: mail@pergan.com  |
| <ul> <li>Version number of previous</li> </ul>  |  |
| version:  | 4  |
| <ul> <li>Abbreviations and acronyms:</li> </ul> | ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International |
|   | Carriage of Dangerous Goods by Road)<br>IMDG: International Maritime Code for Dangerous Goods  |
|   | INDEX. International manufacture code to Dangerous Goods   |
|   | GHS: Globally Harmonised System of Classification and Labelling of Chemicals   |
|   | EINECS: European Inventory of Existing Commercial Chemical Substances  |
|   | ELINCS: European List of Notified Chemical Substances<br>CAS: Chemical Abstracts Service (division of the American Chemical Society)   |
|   | (Contra on page 11)  |



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| DNEL: Derived No-Effect Level (REACH)<br>PNEC: Predicted No-Effect Concentration (REACH)<br>LC50: Lethal concentration, 50 percent<br>LD50: Lethal dose, 50 percent<br>PBT: Persistent, Bioaccumulative and Toxic<br>vPvB: very Persistent and very Bioaccumulative<br>Flam. Liq. 2: Flammable liquids – Category 2<br>Flam. Liq. 3: Flammable liquids – Category 3<br>Ox. Liq. 1: Oxidizing liquids – Category 1<br>Orq. Perox. D: Organic peroxides – Type C/D |
|--|
| Acute Tox. 4: Acute toxicity – Category 4  |
| Acute Tox. 3: Acute toxicity – Category 3<br>Acute Tox. 1: Acute toxicity – Category 1   |
| Skin Corr. 1A: Skin corrosion/irritation – Category 1A   |
| Skin Corr. 1B: Skin corrosion/irritation – Category 1B<br>Skin Irrit. 2: Skin corrosion/irritation – Category 2  |
| Eye Dam. 1: Serious eye damage/eye irritation – Category 1   |
| Eye Irrit. 2: Serious eye damage/eye irritation – Category 2   |
| Repr. 2: Reproductive toxicity – Category 2<br>STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  |
| Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3  |

 \* Data compared to the previous version altered.