

Version: 9 (replaces version 8)

**PERGAN** The Peroxide Company

Revision: 11.10.2023

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

· 1.1 Product identifier

**PEROXAN PB M-20** 

| <ul> <li>Trade name:</li> </ul>   |   |  |  |
|---|---|--|--|
| 1.2 Relevant identified uses of the substance or mixture and uses advised against |   |  |  |
|   | No further relevant information available.  |  |  |
| <ul> <li>Application of the substance /</li> </ul>                                |   |  |  |
| the mixture   | Reaction initiator                          |  |  |
|   | For industrial use                          |  |  |
| · 1.3 Details of the supplier of the  | safety data sheet                           |  |  |
| Manufacturer/Supplier:  | PERGAN GmbH                                 |  |  |
|   | Hilfsstoffe für industrielle Prozesse       |  |  |
|   | Schlavenhorst 71                            |  |  |
|   | D-46395 Bocholt                             |  |  |
|   | Tel: +49 2871 9902-0                        |  |  |
|   | Fax: +49 2871 9902-50                       |  |  |
| · Further information obtainable  |   |  |  |
| from:   | Environment protection / Security of labour |  |  |
|   | Qualified person: E-mail: msds@pergan.com   |  |  |
| 1.4 Emergency telephone   |   |  |  |
| number:   | - 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 Flam. Liq. 3 H226 Flammable liquid and vapour.

| Org. Perox. C   | H242 Heating may cause a fire.            |  |  |
|-----------------|---|--|--|
| Acute Tox. 3    | H331 Toxic if inhaled.                    |  |  |
| Skin Irrit. 2   | H315 Causes skin irritation.              |  |  |
| Skin Sens. 1    | H317 May cause an allergic skin reaction. |  |  |
| Aquatic Acute 1 | H400 Very toxic to aquatic life.          |  |  |
|                 |   |  |  |

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

#### · 2.2 Label elements

· Hazard pictograms

Labelling according to

Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.



|                             | 011002 011000    |   |
|-----------------------------|------------------|---|
| · Signal word               | Danger           |   |
| Hazard-determining          |                  |   |
| components of labelling:    | tert-butyl perbe | enzoate   |
|                             | pentane-2,4-di   | one   |
| Hazard statements           | H226 Flammat     | ble liquid and vapour.  |
|                             | H242 Heating r   | may cause a fire.   |
|                             | H331 Toxic if ir | nhaled.   |
|                             | H315 Causes s    | skin irritation.  |
|                             | H317 May caus    | se an allergic skin reaction.   |
|                             | H410 Very toxi   | c to aquatic life with long lasting effects.  |
| Precautionary statements    | P210             | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.              |
|                             | P234             | Keep only in original packaging.  |
|                             | P243             | Take action to prevent static discharges.   |
|                             | P264             | Wash thoroughly after handling.   |
|                             | P273             | Avoid release to the environment.   |
|                             | P280             | Wear protective gloves/protective clothing/eye protection/face protection/hearing<br>protection.            |
|                             | P303+P361+P      | 353 F ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
|                             | P403+P235        | Store in a well-ventilated place. Keep cool.  |
|                             | P410             | Protect from sunlight.  |
|                             | P411             | Store at temperatures not exceeding +30°C.  |
|                             | P420             | Store separately.   |
|                             | P501             | Dispose of contents/container in accordance with local/regional/national/international<br>regulations.      |
| 2.3 Other hazards           |                  |   |
| Results of PBT and vPvB ass | essment          |   |
| · PBT:                      | The substance    | s in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.                          |

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

· vPvB:

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Determination of endocrine-

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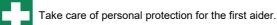
| disrupting properties   | The product does not contain substances with endocrine disrupting properties.   |        |
|---|---|--------|
| SECTION 3: Compositio   | n/information on ingredients  |        |
| · 3.2 Mixtures<br>· Description:  | Mixture: consisting of the following components.  |        |
| · Dangerous components:   |   |        |
| CAS: 614-45-9<br>EINECS: 210-382-2<br>Reg-No.: 01-2119513317-46                               | tert-butyl perbenzoate<br>Org. Perox. C, H242; Aquatic Acute 1, H400; Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1,<br>H317; Aquatic Chronic 3, H412 | 70-80% |
| CAS: 123-54-6<br>EINECS: 204-634-0<br>Index number: 606-029-00-0<br>Reg-No.: 01-2119458968-15 |   | 10-25% |
| · 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: Sym

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of unconsciousness place patient stably in side position for transportation.



· After inhalation:

- · After skin contact:
- · After eye contact:
- · After swallowing:
- 4.2 Most important symptoms and effects, both acute and delayed
- 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

If symptoms persist consult doctor.

Supply fresh air and to be sure call for a doctor.

Immediately remove contaminated clothing.

Take affected persons into fresh air and keep quiet.

Immediately wash with water and soap and rinse thoroughly.

Rinse opened eye for several minutes under running water.

No further relevant information available

#### **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.
 5.2 Special hazards arising from the substance or mixture Under certain fire conditions, traces of other toxic gases cannot be excluded. Hydrocarbons, carbondioxide and -monoxid.
 5.3 Advice for firefighters
 Protective equipment: Mouth respiratory protective device. Do not inhale explosion gases or combustion gases.
 Additional information Cool endangered receptacles with water spray. Self-protection first!

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

| <ul> <li>6.1 Personal precautions,<br/>protective equipment and</li> </ul> |   |  |
|--|---|--|
| emergency procedures   | Remove persons from danger area.  |  |
|  | Keep away from ignition sources.  |  |
|  | In case of further temperature should be cooled with waterspray from a safe distance. |  |
|  | Wear breathing apparatus with filter A during decomposition of materials.             |  |
|  | 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.                                |  |

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|---|
|   |
| 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.     |
| 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**

| SECTION 7. Handling and st                           |   |
|--|---|
| · 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.                                      |
|  | Handle with care. Avoid jolting, friction and impact.   |
|  | Do not refill residue into storage receptacles.   |
|  | 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).  |
|  | While using do not eat, drink or smoke.   |
|  | Do not generate flames or sparks.   |
|  | Keep product and emptied container away from heat and sources of ignition.  |
|  | Avoid shock and friction.   |
|  | Take precautionary measures against static discharges.  |
|  |   |
|  | bo not smoke.   |
|  |   |
| Information about fire - and                         |   |
| explosion protection:                                | Protect from heat   |
|  | Protect against electrostatic charges.  |
|  | Prevent impact and friction.  |
|  | Use explosion-proof apparatus / fittings and spark-proof tools.   |
|  | Fumes can combine with air to form an explosive mixture.  |
|  | Wear shoes with conductive soles.   |
|  |   |
|  | Formation of flammable or explosive gas/air-mixtures is possible.   |
|  |   |
|  | Avoid open flames, sparks, direct sunlight and other sources of ignition.   |
|  | Keep ignition sources away - Do not smoke.  |
|  |   |
| <ul> <li>7.2 Conditions for safe storage,</li> </ul> |   |
| · 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.  |
| Further information about                            |   |
| storage conditions:                                  | Keep container tightly sealed.  |
|  | Protect from heat and direct sunlight.  |
|  | Protect from contamination.   |
|  | Store under lock and key and with access restricted to technical experts or their assistants only.<br>Storage in a collecting room is required. |
| . Performended stores                                | Storage in a conecting room is required.  |
| · Recommended storage                                |   |
| temperature (To maintain                             |   |
| quality):<br>Storage class:                          | 0 +30 °C<br>5.2   |
| Storage class:                                       | 5.2 (Contd. on page 4)  |
|  | (Contd. on page 4)  |
|  |   |

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| SECTION 8: Exposure controls/personal protection 8:1 Control parameters Ingredients with limit values that require monitoring at the workplace: 1:32-64 pointane-2-4-dione OEL (related) Long-term value: 25 ppm OEL for value: 26 ppm OEL for va  | 7.3 Specific end use(s)   | ) No further relevant information available. (Contd. of p   |
|--|---|---|
| Ingredients with limit values that require monitoring at the workplace:<br>123-64 & pentane-2,4-dione<br>DNEL 6<br>844-59 tert-butyl perbenzoate<br>Dermal DNEL Longterm System 17,5 mg/kg bw/day (Worker)<br>Initiative DNEL Longterm System 24,7 mg/kg bw/day (Worker)<br>Initiative DNEL Longterm System 12,2 mg/kg bw/day (Worker)<br>Initiative DNEL Longterm System 14,7 mg/kg bw/day (Worker)<br>PNECS<br>844-59 tert-butyl perbenzoate<br>PNEC Feature 12,0 mg/kg set dw<br>PNEC Feature 12,0 mg/kg set dw<br>PNEC Feature 24,0 mg/kg set dw<br>PNEC Statistics 12,0 mg/kg set dw<br>PNEC Statistics 24,0 mg/kg set dw<br>PNEC Statistics 24,0 mg/kg set dw<br>PNEC Statistics 24,0 mg/kg set dw<br>PNEC Feature 24,0 mg/kg | SECTION 8: Exposu   | re controls/personal protection   |
| Ingredients with limit values that require monitoring at the workplace: 123-54 5 pertane-2,4-dione 226. (reland) (Long-term value: 25 ppm DNEL5 374-55 pertane-2,4-dione Dermai DNEL Longterm System 17,5 mg/kg bw/day (Worker) ninatative (DNEL Longterm System) 24,7 mg/kg bw/day (Worker) DNEL5 374-55 pertane-2,4-dione Dermai DNEL Longterm System 12,12 mg/kg bw/day (Worker) PNEC5 374-55 tert-1,12 mg/kg set dw PNEC Festwater ad 0,028 mg/kg set dw PNEC Solid (AF 10) PNEC Festwater ad 0,028 mg/kg set dw PNEC Solid (AF 10) PNEC Solid (AF 10) PNEC Festwater ad 0,019 mg/kg set dw PNEC Solid (AF 10) PNEC Solid (AF 10) PNEC Festwater ad 0,019 mg/kg set dw PNEC Solid (AF 10) PNEC Festwater ad 0,019 mg/kg set dw PNEC Solid (AF 10) PNEC Festwater ad 0,019 mg/kg set dw PNEC Solid (AF 10) PNEC Festwater ad 0,019 mg/kg set dw PNEC Solid (AF 10) PNEC Festwater ad 1,909 mg/kg set dw PNEC Solid (AF 10) PNEC Festwater ad 1,909 mg/kg set dw PNEC Solid (AF 10) PNEC Festwater ad 1,909 mg/kg set dw PNEC Festwater ad 1,909 mg/kg set dw PNEC Solid (AF 50) PNEC Festwater ad 1,909 mg/kg set dw PNEC Festwater ad 1,900 mg/kg set dw PNEC   | 8.1 Control parameters  |   |
| 123:54:5       Spin         DREL (reland) Long-term value: 25 ppm       DREL         DREL of the spin       DREL         DREL Longterm System [17,5 mg/kg bw/day (Worker)       DREL         nhalative DNEL Longterm System [17,5 mg/kg bw/day (Worker)       DREL         DREL Dongterm System [17,6 mg/kg bw/day (Worker)       DREL         Parmal [DNEL Longterm System [17,6 mg/kg bw/day (Worker)       DREL         Prescient System [17,6 mg/kg bw/day (Worker)       DREL         Prescient System [17,6 mg/kg bw/day (Worker)       DREL         Prescient System [17,6 mg/kg sed dw       DREL         PREC Grashwater [0,01 mg/kg sed dw       DREL Oraginers System [17,6 mg/kg sed dw         PREC Frashwater [0,01 mg/kg sed dw       DREC Frashwater [0,01 mg/kg sed dw         PREC Stail       0.6 mg/kg sed dw         PREC Frashwater [0,02 mg/kg sed dw       DREC Frashwater [0,22 mg/kg kg sed dw         PREC Frashwater [0,22 mg/kg kg sed dw       DREC Frashwater [0,22 mg/kg kg sed dw         PREC Frashwater [0,22 mg/kg kg sed dw       DREC Frashwater [0,22 mg/kg kg sed dw         PREC Frashwater [0,22 mg/kg kg sed dw       DREC Frashwater [0,22 mg/kg kg sed dw         PREC Frashwater [0,22 mg/kg kg sed dw       DREC Frashwater [0,22 mg/kg kg sed dw         PREC Frashwater [0,22 mg/kg kg sed dw       DREC Frashwater [0,22 mg/kg kg sed dw         PRE   | •   |   |
| DEL (reiand) Long-term value: 25 ppm<br>DNELs<br>3124-59 tort-butyl perbenzoate<br>Jarmal [ NEL Longterm System [17,5 mg/kg bw/day (Worker)<br>123-545 pentane-2,4-dione<br>Jermal [ NEL Longterm System ] 24.7 mg/kg bw/day (Worker)<br>nhalative [ DNEL Longterm System ] 24.7 mg/kg bw/day (Worker)<br>nhalative [ DNEL Longterm System ] 24.7 mg/kg bw/day (Worker)<br>nhalative [ DNEL Longterm System ] 24.7 mg/kg bw/day (Worker)<br>nhalative [ DNEL Longterm System ] 48 mg/m3 (Worker)<br>PNECS<br>514-59 tort-butyl perbenzoate<br>PNEC Marinewater sed () 0.28 mg/kg sed dw<br>PNEC Freshwater sed () 0.28 mg/kg sed dw<br>PNEC STP 0.6 mg/l (AF 10)<br>PNEC STP 0.6 mg/l (AF 10)<br>PNEC Stremate: 2,4-dione<br>PNEC Marinewater do () 0.101 mg/l (AF 100)<br>223-54-6 pentane-2,4-dione<br>PNEC Marinewater sed (),191 mg/kg sed dw<br>PNEC Stremate: 2,4-dione<br>PNEC Marinewater do (),21 mg/kg sed dw<br>PNEC Stremate: 2,4-dione<br>PNEC Stremate: 2,4-dione<br>PNEC Stremate: 2,4-dione<br>PNEC Stremate: 2,4-dione<br>PNEC Marinewater do (2,2 mg/kg sed dw<br>PNEC Marinewater do (2,2 mg/kg sed dw<br>PNEC Marinewater do (2,2 mg/kg sed dw)<br>PNEC Stremate: 2, bas personal protective equipment<br>General protective measures, such as personal protective equipment<br>General protective measures, such as personal protective equipment<br>General protective and<br>Marine data protection measures, such as a personal protective equipment<br>General protective and bread and contaminated clothing<br>Wash hands before breaks and at the end of when,<br>Avoid contact with the seys and skin.<br>Avoid contact with the se           | •   | · • ·   |
| PA-45-9 tert-butyl perbenzoste         Darmal I       NREL Longterm System   24,7 mg/m3 (Worker)         Parmal I       NREL Longterm System   24,7 mg/m3 (Worker)         Parmal I       NREL Longterm System   12 mg/kg bw/day (Worker)         nhalative       DNEL Longterm System   12 mg/kg bw/day (Worker)         nhalative       DNEL Longterm System   12 mg/kg bw/day (Worker)         PNECS       9028 mg/kg sed dw         PNEC Freshwater sed   0.028 mg/kg sed dw       0.28 mg/kg sed dw         PNEC Store       0.049 mg/kg sed dw         PNEC Store       0.049 mg/kg sed dw         PNEC Store       0.049 mg/kg sed dw         PNEC Store       0.058 mg/ (AF 10)         PNEC Freshwater sed       0.028 mg/ (AF 10)         PNEC Freshwater sed       0.193 mg/kg sed dw         PNEC Freshwater sed       0.193 mg/kg sed dw         PNEC Freshwater sed       0.02 mg/ (AF 50)         PNEC Freshwater sed       0.02 mg/ (AF 10)         PNEC Store       1.909 mg/kg sed dw         PNEC Freshwater sed       0.02 mg/ (AF 50) <t< td=""><td>•</td><td></td></t<>  | •   |   |
| DNEL Longtern System         12,5 mg/kg bw/day (Worker)           Inalative (DNEL Longtern System)         24,7 mg/kg bw/day (Worker)           Inalative (DNEL Longtern System)         12 mg/kg bw/day (Worker)           Inalative (DNEL Longtern System)         84 mg/m3 (Worker)           PNEC 5         544 56 tart-butyl perbenzote           PNEC Festivater         0.01 mg/t (AF 10)           PNEC Frestivater         0.01 mg/t (AF 10)           PNEC Festivater         0.049 mg/kg sol dw           PNEC State         0.049 mg/kg sol dw           PNEC State         0.010 mg/t (AF 10)           PNEC State         0.0101 mg/t (AF 10)           PNEC Festivater         0.02 mg/kg sol dw           PNEC State         0.02 mg/t (AF 10)           PNEC Festivater         0.22 mg/kg sol dw           PNEC State         0.0101 mg/t (AF 100)           PNEC Festivater         0.22 mg/kg sol dw           PNEC Festivater         0.20 mg/k   | DNELs   |   |
| DNEL Longtern System         12,5 mg/kg bw/day (Worker)           Inalative (DNEL Longtern System)         24,7 mg/kg bw/day (Worker)           Inalative (DNEL Longtern System)         12 mg/kg bw/day (Worker)           Inalative (DNEL Longtern System)         84 mg/m3 (Worker)           PNEC 5         544 56 tart-butyl perbenzote           PNEC Festivater         0.01 mg/t (AF 10)           PNEC Frestivater         0.01 mg/t (AF 10)           PNEC Festivater         0.049 mg/kg sol dw           PNEC State         0.049 mg/kg sol dw           PNEC State         0.010 mg/t (AF 10)           PNEC State         0.0101 mg/t (AF 10)           PNEC Festivater         0.02 mg/kg sol dw           PNEC State         0.02 mg/t (AF 10)           PNEC Festivater         0.22 mg/kg sol dw           PNEC State         0.0101 mg/t (AF 100)           PNEC Festivater         0.22 mg/kg sol dw           PNEC Festivater         0.20 mg/k   | 614-45-9 tert-butvl perk  | benzoate  |
| 123-54.5 pentane-2,4-dione         Demail       DNEL Longterm System [4 mg/kg bwlday (Worker)         Inalative       DNEL Longterm System [4 mg/kg bwlday (Worker)         PNEC5       3144.59 tort-butyl perbenzoate         PNEC Freshwater       0,01 mg/kg sed dw         PNEC Freshwater       0,01 mg/kg sed dw         PNEC Freshwater       0,049 mg/kg sol dw         PNEC Station       0.44 mg/kg sol dw         PNEC Station       0.049 mg/kg sol dw         PNEC Station       0.049 mg/kg sol dw         PNEC Marinewater       0,0010 mg/ (AF 100)         123-54-5 pentane-2,4-dione       PNEC Marinewater sed 0, 191 mg/kg sed dw         PNEC Marinewater       0,20 mg/ (AF 50)         PNEC Karinewater       0,22 mg/ (AF 10)         PNEC STP       1,32 mg/ (AF 10)         PNEC Marinewater       0,22 mg/ (AF 50)         PNEC Marinewater       0,22 mg/ (AF 50) <td></td> <td></td>  |   |   |
| Demail         DNEL Longterm System         12 mg/kg bw/day (Worker)           nhalative         DNEL Longterm System         84 mg/m3 (Worker)           PNEC5         Stat.455 tort-butyl perbenzoate         Stat.455 tort-butyl perbenzoate           PNEC Maincewater sed         0.28 mg/kg sed dw         Stat.455 tort-butyl perbenzoate           PNEC Freshwater         0.01 mg/ (AF 10)         Stat.455 tort-butyl perbenzoate           PNEC Sol         0.04 mg/kg sol dw         Stat.455 tort-butyl perbenzoate           PNEC Sol         0.04 mg/kg sol dw         Stat.455 tort-butyl perbenzoate           PNEC Sol         0.04 mg/kg sol dw         Stat.455 tort-butyl perbenzoate           PNEC Mainewater sed         0.020 mg/kg sol dw         Stat.455 tort-butyl perbenzoate           PNEC Mainewater sed         0.01 mg/kg sol dw         Stat.455 tort-butyl perbenzoate           PNEC Freshwater sed         0.191 mg/kg sol dw         Stat.455 tort-butyl perbenzoate           PNEC Sol         1.32 mg/l (AF 10)         Stat.455 tort-butyl perbenzoate           PNEC Sol         0.02 mg/kg sol dw (-j)         Stat.55 tort-butyl perbenzoate           PNEC Sol         0.02 mg/kg sol dw (-j)         Stat.55 tort-butyl perbenzoate           PNEC Sol         Additional information:         The lists valid during the making were used as basis.           32 E  | nhalative DNEL Longte   | erm System 24,7 mg/m3 (Worker)  |
| Inhalative DNEL Longterm System 84 mg/m3 (Worker) PNECs S144-59 tert-butyl perberzcate PNEC Marinewater sed 0,028 mg/kg sed dw PNEC Freshwater sed 0,028 mg/kg sed dw PNEC Freshwater sed 0,049 mg/kg sed dw PNEC Streshwater 0,001 mg/ (AF 10) PNEC Marinewater sed 0,011 mg/ (AF 10) PNEC Streshwater 0,00101 mg/ (AF 10) PNEC Marinewater 0,00101 mg/ (AF 10) PNEC Marinewater sed 0,191 mg/kg sed dw PNEC STP 0,6 mg/ (AF 50) PNEC Streshwater 0,2.9 mg/kg sed dw PNEC STP 1,32 mg/ (AF 50) PNEC Streshwater 0,027 mg/ (AF 50) PNEC Streshwater 0,0191 mg/kg sed dw PNEC Freshwater 0,02 mg/ (AF 50) PNEC Streshwater 0,02 mg/ (AF 50) PNEC Streshwater 0,02 mg/ (AF 50) PNEC Marinewater 20,0191 mg/ (AF 50) PNEC Streshwater 0,027 mg/ (AF 50) PNEC Marinewater 0,027 mg/   | 123-54-6 pentane-2,4-d  | lione   |
| PNECs         514.45-2 tert-butyl perbenzoate         NEC Marinewater sed       0.20 mg/kg sed dw         PNEC Freshwater       0.01 mg/ (AF 10)         PNEC Sci       0.20 mg/kg sed dw         PNEC Sci       0.20 mg/kg sed dw         PNEC Sci       0.40 mg/kg seil dw         PNEC Sci       0.60 mg/kg seil dw         PNEC Marinewater       0.0010 mg/kg sed dw         PNEC Marinewater       0.20 mg/kg sed dw         PNEC Freshwater       0.193 mg/kg sed dw         PNEC Freshwater       0.193 mg/kg sed dw         PNEC Freshwater       0.20 mg/ (AF 50)         PNEC Marinewater       0.20 mg/ (AF 50)         PNEC Soil       0.21 mg/ (AF 50)         Additional Information:       The lists valid during the making were used as basis.         3.2 Exposure controls       No further data; see section 7.         Individual protection measures, such as personal protective equipment       Censerial protective and         Individual protection measures, such as personal protective equipment       Censerial protective and feed.         Individual protection and       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.       Immediately remove all solied and contaminated clothing         Wash hands before breaks.   | -   |   |
| SH4-45-9 tert-butyl perbenzoate         NECC Marinewater sed       0.028 mg/kg sed dw         NEC Freshwater sed       0.28 mg/kg sed dw         NEC STP       0.6 mg/kg soil dw         NEC STP       0.6 mg/kg soil dw         SNEC STP       0.6 mg/kg soil dw         NEC STP       0.6 mg/kg soil dw         SNEC STP       0.6 mg/kg soil dw         SNEC Adminewater       0.00101 mg/k (AF 10)         NEC Freshwater       0.28 mg/kg soil dw (-)         NEC Freshwater sed       1.909 mg/kg soil dw (-)         NEC STP       1.32 mg/kg soil dw (-)         NEC Freshwater       0.22 mg/kg KF 500)         NEC Freshwater       0.22 mg/kg KF 500)         Additional information:       The lists valid during the making were used as basis.         2.2 Exposure controls       Appropriate engineering controls         Mecontrols       No further data; see section 7.         Individual protection measures, such as personal protective equipment       General protective and feed.         Individual protection measures, such as personal protective equipment       Seco er long term contact with the eyes and skin.         Supprint engineering       Conting think sonko er onfit where were and feed.         Individual protection       In case of brief exposure or low pollution use respiratory filter device. In case of int  | nhalative DNEL Longte   | erm System 84 mg/m3 (Worker)  |
| PNEC Marinewater sed       0.028 mg/kg sed dw         PNEC Freshwater       0.01 mg/t (AF 10)         PNEC Freshwater       0.049 mg/kg soil dw         PNEC STP       0.6 mg/t (AF 10)         PNEC Marinewater       0.0101 mg/t (AF 100)         123.544 pentane-2,4-dione       PNEC Marinewater sed         PNEC Marinewater sed       0.191 mg/kg sed dw         PNEC Freshwater sed       0.191 mg/kg sed dw         PNEC STP       1.930 mg/kg soil dw (-)         PNEC STP       1.930 mg/kg soil dw (-)         PNEC STP       1.930 mg/kg soil dw (-)         PNEC STP       1.920 mg/kg sed dw         PNEC STP       1.920 mg/kg sed dw         PNEC STP       0.02 mg/t (AF 50)         Additional information:       The lists valid during the making were used as basis.         32 Exposure controls       Appropriate engineering controls         Appropriate engineering controls       No further data; see section 7.         Individual protection measures:       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.       Immediately remove all solied and contaminated clothing         Wash hands before breaks.       No contact with the eyes and skin.       Avoid contact with the eyes and skin.         Avoid coise or long term usu   | PNECs   |   |
| PNEC Freshwater       0,01 mg/l (ÅF 10)         PNEC Sine       0,28 mg/kg soid dw         PNEC Sine       0,6 mg/l (ÅF 10)         PNEC Sine       0,6 mg/l (ÅF 10)         PNEC Sine       0,0101 mg/l (ÅF 10)         PNEC Sine       0,0101 mg/l (ÅF 10)         PNEC Sine       0,02 mg/l (ÅF 10)         PNEC Marinewater sed       0,191 mg/kg sed dw         PNEC Freshwater sed       0,193 mg/kg soid dw (-)         PNEC Sine       0,2 mg/l (ÅF 50)         PNEC Sine       0,02 mg/l (ÅF 500)         PNEC Sine       0,02 mg/l (ÅF 500)         PNEC Sine       0,02 mg/l (ÅF 500)         Additional information:       The lists valid during the making were used as basis.         3.2 Exposure controls       Appropriate engineering         Appropriate engineering       No further data; see section 7.         Individual protection       messures, such as personal protective equipment         * General protective       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.       Immediately remove all solied and contaminated clothing.         Wash hands before breaks and at the end of work.       Store protective clothing separately.         Avoid close or long term contact with the eys and skin.       Do not eat, drink, s   |   |   |
| PNEC Freshwater sed       0.28 mg/kg sed dw         PNEC Soil       0.049 mg/kg soil dw         PNEC STP       0.6 mg/l (AF 10)         PNEC Marinewater sed       0.191 mg/kg sed dw         PNEC Marinewater sed       0.21 mg/kg sed dw         PNEC Marinewater sed       0.21 mg/kg sed dw         PNEC Marinewater sed       0.21 mg/kg sed dw         PNEC Freshwater sed       0.20 mg/kg sed dw         PNEC Freshwater sed       0.20 mg/kg sed dw         PNEC Scill       0.193 mg/kg soil dw (-)         PNEC Stripper Stripp  |   |   |
| PNEC Soil     0,049 mg/kg soil dw       NEC STP     0,6 mg/l (AF 10)       NEC Marinewater     0,0101 mg/l (AF 10)       123 54-6 pentane-2,4-dione     Presson       NEC Freshwater sed     0,191 mg/kg sed dw       NEC Freshwater sed     1,909 mg/kg sed dw       NEC Soll     0,02 mg/l (AF 50)       PNEC Marinewater     0,20 mg/l (AF 500)       Additional information:     The lists valid during the making were used as basis.       3.2 Exposure controls     No further data; see section 7.       Appropriate engineering     No further data; see section 7.       Individual protection measures; such as personal protective equipment       General protective and hygienic measures; such as personal protective equipment.       General protective and hygienic measures:       hygienic measures:       Respiratory protection:       The usual precautionary measures are to be adhered to when handling chemicals.       Keep away from foodstuffs, beverages and feed.       Immediately remove all solied and contaminated clothing       Wash hands before breaks and at the end of work.       Store protective clothing separately.       Avoid close or long term contact with the skin.       Avoid close or long term co  |   |   |
| PNEC STP       0,6 mg/l (AF 10)         NEC Marinewater       0,00101 mg/l (AF 10)         23-54 5 perturbation       0,2 mg/l (AF 50)         PNEC Freshwater       0,20 mg/kg sed dw         PNEC Soli       0,193 mg/kg soli dw (-)         PNEC Soli       0,193 mg/kg soli dw (-)         PNEC Soli       0,102 mg/l (AF 10)         PNEC Soli       0,102 mg/l (AF 50)         Additional information:       The lists valid during the making were used as basis.         12 Exposure controls       No further data; see section 7.         Additional information:       The lists valid during the making were used as basis.         12 Exposure controls       No further data; see section 7.         Controls       No further data; see section 7.         Individual protectior measures:       such as personal protective equipment         General protective and       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.       Immediately remove all solied and contaminated clothing         Yeas in the usual protection recearm for skin protection.       Be sure to clean skin thoroughly after work and before breaks.         In case of binef exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.         Veis usuable respiratory   |   |   |
| PNEC Marinevater       0,00101 mg/l (ÅF 100)         23-54-6 pontane-2,4-dioner         VREC Marinevater sed       0,191 mg/kg sed dw         PNEC Freshwater sed       0,20 mg/l (ÅF 50)         NREC String       1,390 mg/kg soil dw (-)         PNEC String       1,32 mg/l (ÅF 10)         NREC String       1,32 mg/l (ÅF 50)         Additional information:       The list valid during the making were used as basis.         3.2 Exposure controls       Appropriate engineering         Additional information:       The list valid during the making were used as basis.         3.2 Exposure controls       No further data; see section 7.         Individual protection measures, such as personal protective equipment       General protective and         General protective and       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodsulfs, beverages and feed.       Immediately remove all soiled and contaminated clothing         Wash hands before breaks and at the end of work.       Store protective caldue contact with the eyes and skin.         Do not eat, drink, smoke or sniff while working.       Use suitable respiratory protection.         Be sure to clean skin thoroughly after work and before breaks.       In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. <tr< td=""><td></td><td></td></tr<>   |   |   |
| 123-54-6 pentane-2,4-dione         PNEC Marinewater sed       0,191 mg/kg sed dw         PNEC Freshwater       0, 20 mg/ (AF 50)         PNEC Freshwater sed       1,909 mg/kg sed dw         PNEC Stall       0,133 mg/kg soil dw (-)         PNEC Stall       0,20 mg/ (AF 50)         PNEC Stall       0,20 mg/ (AF 50)         PNEC Stall       0,20 mg/ (AF 500)         Additional information:       The lists valid during the making were used as basis.         3.2 Exposure controls       Appropriate engineering controls         Appropriate engineering controls       No further data; see section 7.         Individual protection measures, such as personal protective equipment       The usual precautionary measures are to be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed. Immediately remove all solled and contaminated clothing         Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes and skin. Avoid contact with the eyes and skin. Avoid contact with the eyes and skin. Do not eat, drink, smoke or smiff while working. Use skin protection ream for skin protection.         Respiratory protection:       In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.         Wile work and before breaks.       In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use sel   |   |   |
| PNEC Marinewater sed       0,191 mg/kg sed dw         PNEC Freshwater       0,2 mg/ (AF 50)         PNEC Freshwater sed       1,909 mg/kg sed dw         PNEC Soil       0,193 mg/kg soil dw (-)         PNEC Soil       0,193 mg/kg soil dw (-)         PNEC Treshwater       0,02 mg/ (AF 10)         PNEC Marinewater       0,02 mg/ (AF 500)         Additional Information:       The lists valid during the making were used as basis.         3.2 Exposure controls       No further data; see section 7.         Appropriate engineering       No further data; see section 7.         Individual protection measures, such as personal protective equipment       General protective and         Mygienic measures:       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.       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 feed.       Immediately remove all soiled and contaminated clothing.         Use skin protection cream for skin protection.       Be sure to clean skin.         Do not eat, drink, smoke or smiff while working.       Use skin protection cream for skin protection.         Respiratory protection:       In case of brief exposure or low pollution use respiratory filter   |   |   |
| PNEC Freshwater       0.2 mg/ (AF 50)         NEC Freshwater sed       1,909 mg/kg sed dw         PNEC Soil       0,193 mg/kg sed dw         PNEC Soil       0,193 mg/kg soil dw (-)         PNEC STP       1,32 mg/l (AF 10)         PNEC Soil       0,02 mg/l (AF 500)         Additional information:       The lists valid during the making were used as basis.         32 Exposure controls       The lists valid during the making were used as basis.         32 Exposure controls       No further data; see section 7.         Individual protection measures, such as personal protective equipment       General protective and         hygienic measures:       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.       Immediately remove all soiled and contaminated clothing         Wash hands before breaks and at the end of work.       Store protective clothing separately.         Avoid conser with the eyes and skin.       Do not eat, drink, smoke or snilf while working.         Use skin protection cream for skin thoroughly after work and before breaks.       In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective.         Respiratory protection:       Filter A2         Hand protection       Only use chemical-protective gloves with CE-labelling of category III.<   |   |   |
| PNEC Freshwater sed       1,909 mg/kg sed dw         VNEC Soil       0,193 mg/kg seil dw (-)         VNEC Soil       1,32 mg/l (AF 10)         NEC Marinewater       0,02 mg/l (AF 500)         Additional information:       The lists valid during the making were used as basis.         .2 Exposure controls       Appropriate engineering         Central protection measures; such as personal protective equipment       General protective and         General protective and       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.       Immediately remove all solied 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 suitable creation cream for skin protective.       In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective and the personal protective gloves with CE-labelling of category III.         Hand protection       Only use chemical-protective gloves with CE-labelling of category III.         Selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.         Butyl rubber, BR       Fluorocarbon rubber (V(ton)   |   |   |
| PNEC Soil       0,193 mg/rg soil dw (-)         PNEC STP       1.32 mg/l (AF 10)         O.20 mg/l (AF 500)       0.02 mg/l (AF 500)         Additional information:       The lists valid during the making were used as basis.         3.2 Exposure controls       The lists valid during the making were used as basis.         3.2 Exposure controls       No further data; see section 7.         Individual protection       measures, such as personal protective equipment         General protective and       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.       Immediately remove all solied and contaminated clothing         Wash hands before breaks and at the end of work.       Store protective clothing separately.         Avoid contact with the syen.       Avoid contact with the syen.         Avoid contact with the syen and skin.       Do not eat, drink, smoke or sniff while working.         Use skin protection cream for skin protection.       Be sure to clean skin thoroughly after work and before breaks.         Respiratory protector       In case of brief exposure or how pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.         Hand protection       Selection of the gloves with CE-labelling of category III.         Hand protection       Selection of the gloves does not only depend on the material, bu  |   |   |
| PNEC STP       1,32 mg/t (ÅF 10)         NEC Marinewater       0,02 mg/t (ÅF 500)         Additional information:       The lists valid during the making were used as basis.         3.2 Exposure controls       No further data; see section 7.         Appropriate engineering controls       No further data; see section 7.         Individual protection measures, such as personal protective equipment       General protective and         hygienic measures:       The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.       Immediately remove all solied and contaminated clothing         Wash hards 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.       Be sure to clean skin thoroughly after work and before breaks.         In case of brief exposure or to wop Olution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.         Filter A2       Use suitable respiratory device when it exceed exposure limit and when insufficiently ventilated before breaks to gloves with CE-labelling of category III.         Hand protection       Only use chemical-protective gloves with CE-labelling of category III.         Vesterial of gloves       The selection of the glover material on consideration   |   |   |
| PNEC Marinewater       0,02 mg/l (AF 500)         Additional information:       The lists valid during the making were used as basis.         3.2 Exposure controls       Appropriate engineering controls         Appropriate engineering controls       No further data; see section 7.         Central protective and protective measures;       Such as personal protective equipment         General protective and protective other measures:       The usual precoautionary measures are to be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed. Immediately remove all solied and contaminated clothing Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid close or long term contact with the skin. Avoid contact with the skin. Avoid contact with the skin protection. Be sure to clean skin thoroughly after work and before breaks. In case of brief exposure or shift while working. Use skin protection ream for skin protection. Be sure to clean skin thoroughly after work and before breaks.         • Respiratory protection       In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.         • Hand protection       Colly use chemical-protective gloves with CE-labelling of category III.         • Hand protection       Protective gloves         • Material of gloves       The selection of the glove material on consideration of the penetration times, rates of diffusion and degradation Protective gloves.         • Material of gloves       The selection of the suitable gloves does not   |   |   |
| Additional information:       The lists valid during the making were used as basis.         8.2 Exposure controls       Appropriate engineering controls         No further data; see section 7.       Individual protection measures, such as personal protective equipment         General protective and hygienic measures:       The usual precautionary measures are to be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed. Immediately remove all solied and contaminated clothing Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid close or long term contact with the skin. Avoid close or long term contact with the skin. Ob not eat, drink, smoke or sniff while working. Use skin protection. Be sure to clean skin thoroughly after work and before breaks.         • Respiratory protection:       In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.         • Hand protection       Only use chemical-protective gloves with CE-labelling of category III.         • Material of gloves       The selection of the glove material on consideration of the penetration times, rates of diffusion and degradation         • Protective gloves       The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. Butyl rubber, NBR   |   |   |
| 3.2 Exposure controls       No further data; see section 7.         Individual protection measures, such as personal protective equipment         General protective and hygienic measures:       The usual precautionary measures are to be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed.         Immediately remove all solied 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.         Be sure to clean skin thoroughly after work and before breaks.       In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.         • Hand protection       Conly use chemical-protective gloves with CE-labelling of category III.         • Hand protection       Selection of the glove material on consideration of the penetration times, rates of diffusion and degradation         • Protective gloves       The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.         Buyling undwares from manufacturer.       Buyling undwares from manufacturer.         Buyling undwares from manufacturer.       Buyling undwares from manufacturer.         • Hand protection       The selection of thes unable gloves does not only depend on the material, but also on further marks  |   |   |
| <ul> <li>Hand protection</li> <li>Only use chemical-protective gloves with CE-labelling of category III.</li> <li>Selection of the glove material on consideration of the penetration times, rates of diffusion and degradation</li> <li>Protective gloves</li> <li>Material of gloves</li> <li>The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.<br/>Butyl rubber, BR</li> <li>Fluorocarbon rubber (Viton)</li> <li>Nitrile rubber, NBR</li> </ul>  | controls<br>Individual protection of<br>General protective ar<br>hygienic measures: | No further data; see section 7.         measures, such as personal protective equipment         Image: The usual precautionary measures are to be adhered to when handling chemicals.         Keep away from foodstuffs, beverages and feed.         Immediately remove all soiled and contaminated clothing         Wash hands before breaks and at the end of work.         Store protective clothing separately.         Avoid close or long term contact with the skin.         Avoid contact with the eyes and skin.         Do not eat, drink, smoke or sniff while working.         Use skin protection cream for skin protection.         Be sure to clean skin thoroughly after work and before breaks.         In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.         Image: Use suitable respiratory device when it exceed exposure limit and when insufficiently ventilated expo |
| Neoprene   |   | Only use chemical-protective gloves with CE-labelling of category III.<br>Selection of the glove material on consideration of the penetration times, rates of diffusion and<br>degradation<br>Protective gloves<br>The selection of the suitable gloves does not only depend on the material, but also on further marks of<br>quality and varies from manufacturer to manufacturer.<br>Butyl rubber, BR<br>Fluorocarbon rubber (Viton)  |
| (Contd. on pa  |   | Neoprepe  |

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 Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- · Eye/face protection
- · Body protection:



Tightly sealed goggles

Protective work clothing

#### **SECTION 9: Physical and chemical properties**

| <ul> <li>9.1 Information on basic physical and chemical properties</li> <li>General Information</li> </ul> |  |
|--|--|
| · 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   | Not applicable.  |
| • Lower and upper explosion limit  |  |
| · Lower:   | Not determined.  |
| · Upper:   | Not determined.  |
| Flash point:   | 48 °C  |
| Decomposition temperature:   | +60 °C (SADT)  |
| · pH   | Not determined.  |
| Viscosity:   | Not dotominod.   |
| · Kinematic viscosity  | Not determined.  |
| · Dynamic:   |  |
|  | Not determined.  |
| Solubility   | l lu determine el  |
| water:   | Undetermined.  |
| Partition coefficient n-octanol/water (log value)  | not determined   |
| Vapour pressure:   | Not determined.  |
| Density and/or relative density  |  |
| · Density at 20 °C:  | 1,03 g/cm <sup>3</sup>   |
| Relative density   | Not determined.  |
| · Vapour density   | Not determined.  |
| · 9.2 Other information  | No further relevant information available.                               |
| · Appearance:  |  |
| · Form:  | Fluid  |
|  |  |
| Important information on protection of health and environme  | nt,  |
| and on safety.   |  |
| Ignition temperature:  | Product is not selfigniting.   |
| Explosive properties:  | Risk of explosion by shock, friction, fire or other sources of ignition. |
| · Change in condition  |  |
| · Evaporation rate   | Not determined.  |
| <ul> <li>Information with regard to physical hazard classes</li> </ul>                                     |  |
| Explosives   | Void   |
| Flammable gases  | Void   |
| Aerosols   | Void   |
| · Oxidising gases  | Void   |
| · Gases under pressure   | Void   |
| · Flammable liquids  | Flammable liquid and vapour.   |
| · 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 gases in   | N/ · · ·   |
| contact with water   | Void   |
| · Oxidising liquids  | Void   |
| · Oxidising solids   | Void   |
| Organic peroxides  | Heating may cause a fire.  |
| Corrosive to metals  | Void   |
| <ul> <li>Desensitised explosives</li> </ul>  | Void   |
|  | (Contd. on page 6)   |
|  |  |

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|---|---|--|
| <ul> <li>Other safety characteristics</li> <li>Active oxygen</li> </ul>                               | 6,34 - 6,59 %   |  |
|   |   |  |
| SECTION 10: Stability and r   | 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. |  |
| <ul> <li>10.3 Possibility of hazardous</li> </ul>   |   |  |
| reactions   | Self-accelerating decomposition at SADT.  |  |
| 10.4 Conditions to avoid  | No further relevant information available.  |  |
| <ul> <li>10.5 Incompatible materials:</li> </ul>  | Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).   |  |
| · 10.6 Hazardous decompositior  | 1   |  |
| 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 Information on hazard classes as defined in Regulation (EC) No 1272/2008

| · Acute tox   | licity      |                | Toxic if inhaled.   |
|---|-------------|----------------|---|
| · LD/LC50 values relevant for classification:                                       |             |                |   |
| 614-45-9 t  | ert-butyl p | erbenzoate     |   |
| Oral  | LD50        | 4.838 mg/kg    | (rattus)  |
| Dermal  | LD50        | 3.817 mg/kg    | (rattus)  |
| Inhalative  | LC100 4h    | 4,9 mg/l (ratt | us)   |
|   | LC0 / 4h    | 1,01 mg/l (ra  | ttus)   |
| 123-54-6 p  | entane-2,4  | 4-dione        |   |
| Oral  | LD50        | 575 mg/kg (r   | attus)  |
| Dermal  | LD50        | 790 mg/kg (r   | attus)  |
| Inhalative  | LC50 / 4h   | 5,1 mg/l (ratt | us)   |
| · Skin corr   | osion/irrit | ation          | Causes skin irritation.   |
|   |             | e/irritation   | Based on available data, the classification criteria are not met. |
|   | ory or skin |                | •• • • • • •  |
| sensitisa   |             |                | May cause an allergic skin reaction.                              |
|   | l mutagen   | icity          | Based on available data, the classification criteria are not met. |
| · Carcinog  |             |                | Based on available data, the classification criteria are not met. |
|   | ctive toxic |                | Based on available data, the classification criteria are not met. |
| · STOT-sin  |             |                | Based on available data, the classification criteria are not met. |
| • •   |             | osure          | Based on available data, the classification criteria are not met. |
| Aspiration hazard Based on available data, the classification criteria are not met. |             |                |   |
| · 11.2 Information on other hazards   |             |                |   |
| · Endocrin  | e disruptiı | ng properties  | 3   |
| None of th  | e ingredien | nts is listed. |   |

#### **SECTION 12: Ecological information**

#### · 12.1 Toxicity

| · Aquatic toxicity:                      |                    |
|--|--------------------|
| 123-54-6 pentane-2,4-dione               |                    |
| LC50 / 96h 72 mg/l (oncorhynchus mykiss) |                    |
| EC50 / 48h 75 mg/l (daphnia)             |                    |
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|---|--|-----------------|
| 12.2 Persistence and degrada                          | bility   |                 |
| Degree of elimination:     Classification:            |  |                 |
|   |  |                 |
| 614-45-9 tert-butyl perbenzoat                        |  |                 |
| Degradation (Readily biodegra                         | idable) (OECD 301 D)   |                 |
| 123-54-6 pentane-2,4-dione                            |  |                 |
| Degradation (Readily biodegra                         | idable) (OECD 301 C)   |                 |
| 12.3 Bioaccumulative potentia                         | al   |                 |
| · Partition coefficient: nOctan                       | ol/water: [Log Kow]  |                 |
| 614-45-9 tert-butyl perbenzoate                       | 9  | 3 (25°C)        |
| 123-54-6 pentane-2,4-dione                            |  | 0,68 (20°C      |
| 12.4 Mobility in soil                                 | No further relevant information available.   | I               |
| 12.5 Results of PBT and vPvB                          | 3 assessment   |                 |
| · PBT:  | The substances in the mixture do not meet the PBT/vPvB criteria according to REACH |                 |
| · vPvB:   | The substances in the mixture do not meet the PBT/vPvB criteria according to REACH | , annex XIII.   |
| 12.6 Endocrine disrupting                             |  |                 |
| properties  | The product does not contain substances with endocrine disrupting properties.      |                 |
| 12.7 Other adverse effects                            | No further relevant information available.   |                 |
| · Remark:   | Very toxic for fish  |                 |
| <ul> <li>Additional ecological information</li> </ul> | ation:   |                 |
| · General notes:                                      | Also poisonous for fish and plankton in water bodies.                              |                 |
|   | Very toxic for aquatic organisms   |                 |
|   | Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water    |                 |
|   | ······································   |                 |
|   | Do not allow product to reach ground water, water course or sewage system.         |                 |

#### SECTION 13: Disposal considerations

| <ul> <li>13.1 Waste treatment methods</li> <li>Recommendation</li> </ul> | After diluting with a suitable desentisation agent to 10 %, the solution must be supplied to a special treatment (e. g. thermal utilization) under observance of all official regulations.                   |
|--|--|
| · Waste disposal key:  | Must not be disposed together with household garbage. Do not allow product to reach sewage system.<br>Please contact your hazardous waste disposers to assign the right EWC-(European waste catalog)-number. |
| <ul> <li>Uncleaned packaging:</li> <li>Recommendation:</li> </ul>        | This material and its container must be disposed of as hazardous waste.  |

| SECTION 14: Transport information                  |  |
|--|--|
| · 14.1 UN number or ID number<br>· ADR, IMDG, IATA | UN3103   |
| · 14.2 UN proper shipping name                     |  |
| ADR  | UN3103 ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL<br>PEROXYBENZOATE), ENVIRONMENTALLY HAZARDOUS |
| ·IMDG  | ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL<br>PEROXYBENZOATE), MARINE POLLUTANT                 |
|  | ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL<br>PEROXYBENZOATE)                                   |
| · 14.3 Transport hazard class(es)                  |  |
| ADR  |  |
|  |  |
| · Class  | 5.2 (P1) Organic peroxides.  |
| · Label  | 5.2  |
|  | (Contd. on page  |

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|---|---|
| ·IMDG   |   |
|   |   |
| · Class   | 5.2 Organic peroxides.  |
| ·Label  | 5.2   |
| ·IATA   |   |
|   |   |
| · Class   | 5.2 Organic peroxides.  |
| · Label   | 5.2   |
| 14.4 Packing group  |   |
| ADR, IMDG, IATA   | Void  |
| 14.5 Environmental hazards:                                     | Product contains environmentally hazardous substances: tert-BUTYL<br>PEROXYBENZOATE |
| Marine pollutant:   | Yes   |
| · Special marking (ADR):  | Symbol (fish and tree)<br>Symbol (fish and tree)                                    |
|   |   |
| 14.6 Special precautions for user                               | Warning: Organic peroxides.   |
| Hazard identification number (Kemler code):<br>Stowage Category | -<br>D  |
| · Stowage Code  | SW1 Protected from sources of heat.   |
| · Segregation Code  | SG35 Stow "separated from" SGG1-acids   |
|   | SG36 Stow "separated from" SGG18-alkalis.   |
| 14.7 Maritime transport in bulk according to IMO instr          | uments Not applicable.  |
| Transport/Additional information:                               |   |
| · ADR   |   |
| · Limited quantities (LQ)                                       | 25 ml   |
| Excepted quantities (EQ)  | Code: E0  |
|   | Not permitted as Excepted Quantity  |
| · Transport category  | 1   |
| · Tunnel restriction code                                       | D   |
| · RID / GGVSEB:   | like ADR  |
| ·IMDG   |   |
| · Limited quantities (LQ)                                       | 25 ml   |
| Excepted quantities (EQ)  | Code: E0  |
|   | Not permitted as Excepted Quantity  |

#### **SECTION 15: Regulatory information**

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

| <ul> <li>Directive 2012/18/EU</li> </ul>             |  |
|--|--|
| · Named dangerous substances                         |  |
| - ANNEX I  | None of the ingredients is listed.   |
| <ul> <li>Seveso category</li> </ul>                  | H2 ACUTE TOXIC   |
| 0.1  | P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES                                      |
|  | E1 Hazardous to the Aquatic Environment  |
| <ul> <li>Qualifying quantity (tonnes) for</li> </ul> |  |
| the application of lower-tier                        |  |
| requirements   | 50 t   |
| Qualifying quantity (tonnes) for                     |  |
| the application of upper-tier                        |  |
| requirements   | 200 t  |
| · REGULATION (EC) No                                 |  |
| 1907/2006 ANNEX XVII                                 | Conditions of restriction: 3   |
| · DIRECTIVE 2011/65/EU on the re                     | estriction of the use of certain hazardous substances in electrical and electronic equipment – Annex |
| II   |  |
| None of the ingredients is listed.                   |  |
|  | (Contd. on page 9)   |

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 \* Data compared to the previous version altered. Version: 9 (replaces version 8)

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| <b>REGULATION (EU) 2019/1148</b>    | (Contd. of page  |
|-------------------------------------|--|
|                                     | 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   |
| None of the ingredients is listed.  |  |
|                                     | laying down rules for the monitoring of trade between the Community and third countries in drug  |
| None of the ingredients is listed.  |  |
| SECTION 16: Other informa           | tion   |
|                                     | present knowledge. However, this shall not constitute a guarantee for any specific product features and sha  |
| · Relevant phrases                  | <ul> <li>H226 Flammable liquid and vapour.</li> <li>H242 Heating may cause a fire.</li> <li>H302 Harmful if swallowed.</li> <li>H311 Toxic in contact with skin.</li> <li>H315 Causes skin irritation.</li> <li>H317 May cause an allergic skin reaction.</li> <li>H331 Toxic if inhaled.</li> <li>H332 Harmful if inhaled.</li> <li>H400 Very toxic to aquatic life.</li> <li>H412 Harmful to aquatic life with long lasting effects.</li> </ul>  |
| Department issuing SDS:<br>Contact: | Environment protection / Security of labour<br>Tel: +49 2871 9902-0<br>E-mail: mail@pergan.com   |
| Version number of previous          | L-mail. man@pergan.com   |
| version:                            | 8  |
| Abbreviations and acronyms:         | International Transport of Dangerous Goods by Rail)<br>ICAO: International Civil Aviation Organisation<br>ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International<br>Carriage of Dangerous Goods by Road)<br>IMDG: International Air Transport Association<br>GHS: Globally Harmonised System of Classification and Labelling of Chemicals<br>EINECS: European Inventory of Existing Commercial Chemical Substances<br>ELINCS: European List of Notified Chemical Substances<br>CAS: Chemical Abstracts Service (division of the American Chemical Society)<br>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>DB51: Persistent, Bioaccumulative and Toxic<br>VPvB: very Persistent and very Bioaccumulative<br>Flam. Liq. 3: Flammable liquids – Category 3<br>Org. Perox. C: Organic peroxides – Type C/D<br>Acute Tox. 4: Acute toxicity – Category 4<br>Skin Irrit. 2: Skin corosion/irritation – Category 2<br>Skin Sens. 1: Skin sensitisation – Category 1<br>Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 3 |