

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

- **1.1 Product identifier**
- **Trade name:** PEROXAN PM-25 S
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / 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**  
Org. Perox. C H242 Heating may cause a fire.  
Acute Tox. 4 H302 Harmful if swallowed.  
Eye Dam. 1 H318 Causes serious eye damage.  
Skin Sens. 1 H317 May cause an allergic skin reaction.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**

GHS02 GHS05 GHS07
- **Signal word** Danger
- **Hazard-determining components of labelling:** OO-tert-butyl monoperoxymaleate
- **Hazard statements** H242 Heating may cause a fire.  
H302 Harmful if swallowed.  
H318 Causes serious eye damage.  
H317 May cause an allergic skin reaction.
- **Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy metal compounds and amines).
P234	Keep only in original packaging.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P330	Rinse mouth.
P362+P364	Take off contaminated clothing and wash it before reuse.
P410	Protect from sunlight.
P411+P235	Store at temperatures not exceeding +30°C. Keep cool.
P420	Store separately.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **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 REACH, annex XIII.
- **Determination of endocrine-disrupting properties** The product does not contain substances with endocrine disrupting properties.

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### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

##### Dangerous components:

CAS: 1931-62-0	OO-tert-butyl monoperoxymaleate	25-30%
EINECS: 217-691-1	Org. Perox. B, H241; Acute Tox. 3, H301; Eye Dam. 1, H318; Skin Sens. 1, H317	
Reg-No.: 01-2120783102-62		

**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:** 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.

- After inhalation:** Take affected persons into fresh air and keep quiet.
- After skin contact:** Immediately remove contaminated clothing.
- After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing:** Call for a doctor immediately.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

**Suitable extinguishing agents:** CO<sub>2</sub>, 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:** Do not inhale explosion gases or combustion gases.
- Additional information** Cool endangered receptacles with water spray. Self-protection first!

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

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:



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 desensitisation agent to a concentration below 10 % before disposal.  
Soak up with absorbant material (e. g. Vermiculit) and dispose of in accordance with government 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.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Keep away from heat and direct sunlight.  
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.  
Restrict the quantity stored at the work place.  
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.



Do 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.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage:** Pay attention to the special requirements of your local authorities 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:

Protect from heat and direct sunlight.  
Protect from contamination.

#### Recommended storage temperature (To maintain quality):

max.: +30 °C

#### Storage class:

5.2

#### 7.3 Specific end use(s)

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:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

#### DNELs

##### 1931-62-0 OO-tert-butyl monoperoxymaleate

Dermal	DNEL Longterm System	0,747 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	2,63 mg/m3 (Worker)

#### PNECs

##### 1931-62-0 OO-tert-butyl monoperoxymaleate

PNEC Marinewater sed	0,00291 mg/kg sed dw (-)
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PNEC Freshwater	0,00424 mg/l (AF 1.000)
PNEC Freshwater sed	0,0291 mg/kg sed dw (-)
PNEC Soil	0,00333 mg/kg soil dw (-)
PNEC STP	10 mg/l (AF 10)
PNEC Marinewater	0,000424 mg/l (AF 10.000)

· **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 soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes.  
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 protection:**

Not necessary if room is well-ventilated.  
Use suitable respiratory device when it exceed exposure limit and when insufficiently ventilated.



Filter A2

#### · **Hand protection**

Only use chemical-protective gloves with CE-labelling of category III.



Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Protective gloves

#### · **Material of 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, BR  
Fluorocarbon rubber (Viton)  
Nitrile rubber, NBR  
Neoprene

#### · **Penetration time of glove material**

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

#### · **Eye/face protection**



Tightly sealed goggles

#### · **Body protection:**



Protective work clothing

## SECTION 9: Physical and chemical properties

### · 9.1 Information on basic physical and chemical properties

#### · **General Information**

##### · **Colour:**

White

##### · **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:**

> SADT

##### · **Decomposition temperature:**

+60 °C (SADT)

##### · **pH**

Not determined.

##### · **Viscosity:**

##### · **Kinematic viscosity**

Not determined.

##### · **Dynamic:**

Not determined.

##### · **Solubility**

##### · **water:**

Undetermined.

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· Partition coefficient n-octanol/water (log value)	not determined
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20 °C:	1,153 g/cm³
· Relative density	Not determined.
· Vapour density	Not determined.
· 9.2 Other information	No further relevant information available.
· Appearance:	
· Form:	Suspension
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Change in condition	
· Evaporation rate	Not determined.
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· 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 gases 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

## SECTION 10: Stability and reactivity

<ul style="list-style-type: none"> <li>· <b>10.1 Reactivity</b></li> <li>· <b>10.2 Chemical stability</b></li> <li>· <b>Thermal decomposition / conditions to be avoided:</b></li> </ul>	<p>No further relevant information available.</p> <p>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 caused by decomposition at and above the temperature. Contact with incompatible substances can cause decomposition at or below the SADT.</p> <p>No decomposition if used and stored according to specifications.</p> <p>To avoid thermal decomposition do not overheat.</p>
<ul style="list-style-type: none"> <li>· <b>10.3 Possibility of hazardous reactions</b></li> <li>· <b>10.4 Conditions to avoid</b></li> <li>· <b>10.5 Incompatible materials:</b></li> </ul>	<p>Self-accelerating decomposition at SADT.</p> <p>No further relevant information available.</p> <p>Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).</p>
<ul style="list-style-type: none"> <li>· <b>10.6 Hazardous decomposition products:</b></li> <li>· <b>Additional information:</b></li> </ul>	<p>Hydrocarbons, carbon dioxide and -monoxide.</p> <p>No hazardous decomposition products if used and stored according to specifications.</p> <p>Emergency procedures will vary depending on conditions. The customer should have an emergency response plan in place.</p>

## SECTION 11: Toxicological information

<ul style="list-style-type: none"> <li>· <b>11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008</b></li> <li>· <b>Acute toxicity</b> Harmful if swallowed.</li> <li>· <b>LD/LC50 values relevant for classification:</b></li> </ul>	
<b>1931-62-0 OO-tert-butyl monoperoxymaleate</b>	
Oral	LD50   252 mg/kg (rattus)

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- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Causes serious eye damage.
- **Respiratory or skin sensitisation** May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** 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**

### · Endocrine disrupting properties

None of the ingredients is listed.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability**
- **Degree of elimination:**

### · Classification:

**1931-62-0 OO-tert-butyl monoperoxymaleate**

Degradation (Readily biodegradable) (OECD 301 D)

### · 12.3 Bioaccumulative potential

### · Partition coefficient: nOctanol/water: [Log Kow]

102-76-1 (tri-)Acetin 0,25

1931-62-0 OO-tert-butyl monoperoxymaleate 0,9 - 4,1 (30°C)

- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **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 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.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**



After diluting with a suitable desensitisation agent to 10 %, the solution must be supplied to a special treatment (e. g. thermal utilization) under observance of all official regulations.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **Waste disposal key:** Please contact your hazardous waste disposers to assign the right EWC-(European waste catalog)-number.
- **Uncleaned packaging:**
- **Recommendation:** This material and its container must be disposed of as hazardous waste.

## SECTION 14: Transport information


- **14.1 UN number or ID number**
- **ADR, IMDG, IATA** UN3103
- **14.2 UN proper shipping name**
- **ADR** UN3103 ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL MONOPEROXYMALEATE)
- **IMDG, IATA** ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL MONOPEROXYMALEATE)

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· <b>14.3 Transport hazard class(es)</b>	
· <b>ADR</b>	
	
· <b>Class</b>	5.2 (P1) Organic peroxides.
· <b>Label</b>	5.2
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	5.2 Organic peroxides.
· <b>Label</b>	5.2
· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	Void
· <b>14.5 Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b>	
· <b>Hazard identification number (Kemler code):</b>	Warning: Organic peroxides.
· <b>Stowage Category</b>	-
· <b>Stowage Code</b>	D
· <b>Segregation Code</b>	SW1 Protected from sources of heat. SG35 Stow "separated from" SGG1-acids SG36 Stow "separated from" SGG18-alkalis.
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	
Not applicable.	
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	25 ml
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>Transport category</b>	1
· <b>Tunnel restriction code</b>	D
· <b>RID / GGVSEB:</b>	
like ADR	
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	25 ml
· <b>Excepted quantities (EQ)</b>	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

#### · Directive 2012/18/EU

##### · Named dangerous substances

###### - ANNEX I

None of the ingredients is listed.

###### · Seveso category

P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

###### · Qualifying quantity (tonnes) for 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 restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

#### · REGULATION (EU) 2019/1148

##### · Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

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· <b>Annex II - REPORTABLE EXPLOSIVES PRECURSORS</b>
None of the ingredients is listed.
· <b>Regulation (EC) No 273/2004 on drug precursors</b>
None of the ingredients is listed.
· <b>Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors</b>
None of the ingredients is listed.

**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.

· <b>Department issuing SDS:</b>	Environment protection / Security of labour
· <b>Contact:</b>	Tel: +49 2871 9902-0 E-mail: mail@pergan.com
· <b>Version number of previous version:</b>	11
· <b>Abbreviations and acronyms:</b>	RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) ICAO: International Civil Aviation Organisation ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association 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 CAS: Chemical Abstracts Service (division of the American Chemical Society) DNEL: Derived No-Effect Level (REACH) PNEC: Predicted No-Effect Concentration (REACH) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Org. Perox. B: Organic peroxides – Type B Org. Perox. C: Organic peroxides – Type C/D Acute Tox. 3: Acute toxicity – Category 3 Acute Tox. 4: Acute toxicity – Category 4 Eye Dam. 1: Serious eye damage/eye irritation – Category 1 Skin Sens. 1: Skin sensitisation – Category 1
· <b>* Data compared to the previous version altered.</b>	

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