

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

- **1.1 Product identifier**
- Trade name: **PERGAPROP HX-5 PP**
- **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:**  
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**  
The product is not classified, according to the CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
Void
- **Hazard pictograms**  
Void
- **Signal word**  
Void
- **Hazard-determining components of labelling:**  
2,5-Dimethyl-2,5-di-(tert.-butylperoxy)-hexane
- **Hazard statements**  
Void
- **Additional information:**  
Safety data sheet available on request.
- **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.

### SECTION 3: Composition/information on ingredients


#### · 3.2 Mixtures

##### · **Dangerous components:**

CAS: 78-63-7 EINECS: 201-128-1 Reg-No.: 01-2119875400-42	2,5-Dimethyl-2,5-di-(tert.-butylperoxy)-hexane	Org. Perox. C, H242; Skin Irrit. 2, H315	5-10%
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- **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:**  
 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.
- **After swallowing:**  
If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.

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- **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:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **Additional information** Self-protection first!

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **6.2 Environmental precautions:**  Wear protective equipment. Keep unprotected persons away. Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Ensure adequate ventilation. Pick up mechanically, collect in a suitable receptacle and dispose 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.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Open and handle receptacle with care. Prevent formation of dust. Wear suitable respiratory protective device when decanting larger quantities without extractor facilities. Before break and at the end of work hands should be thoroughly washed. While using do not eat, drink or smoke. Avoid shock and friction.
- **Information about fire - and explosion protection:** Prevent impact and friction.
- **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:** Prevent any seepage into the ground. Use only receptacles specifically permitted for this substance/product.
- **Information about storage in one common storage facility:** 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):** +10 .... +40 °C
- **Storage class:** 11
- **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.

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<b>· DNELs</b>	
<b>78-63-7 2,5-Dimethyl-2,5-di-(tert.-butylperoxy)-hexane</b>	
Dermal	DNEL Longterm System 15 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System 11 mg/m3 (Worker)
<b>· PNECs</b>	
<b>78-63-7 2,5-Dimethyl-2,5-di-(tert.-butylperoxy)-hexane</b>	
PNEC Marinewater sed	7,22 mg/kg sed dw (-)
PNEC Freshwater	0,00065 mg/l (AF 10)
PNEC Freshwater sed	72,2 mg/kg sed dw (-)
PNEC Soil	14,4 mg/kg soil dw (-)
PNEC STP	100 mg/l (AF 10)
PNEC Marinewater	0,00065 mg/l (AF 100)
<b>· Additional information:</b>	The lists valid during the making were used as basis.
<b>· 8.2 Exposure controls</b>	
<b>· Appropriate engineering controls</b>	No further data; see section 7.
<b>· Individual protection measures, such as personal protective equipment</b>	
<b>· General protective and hygienic measures:</b>	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. 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.
<b>· Respiratory protection:</b>	Not necessary if room is well-ventilated. Use suitable respiratory device when it exceed exposure limit and when insufficiently ventilated.
	 Filter P2
<b>· Hand protection</b>	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
<b>· Material of gloves</b>	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
<b>· Penetration time of glove material</b>	The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
<b>· Eye/face protection</b>	 Tightly sealed goggles
<b>· Body protection:</b>	 Protective work clothing

## SECTION 9: Physical and chemical properties

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

#### · General Information

· Physical state	Solid
· 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	May cause fire.
· Lower and upper explosion limit	
· Lower:	Not determined.

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· Upper:	Not determined.
· Flash point:	Not applicable.
· Decomposition temperature:	+80 °C (SADT)
· pH	Not applicable.
· Viscosity:	
· Kinematic viscosity	Not applicable.
· Dynamic:	Not applicable.
· Solubility	
· water:	Undetermined.
· Partition coefficient n-octanol/water (log value)	not determined.
	Not determined.
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not applicable.
· Particle characteristics	
See section 3.	
<b>9.2 Other information</b>	
· Appearance:	
· Form:	Granulate
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Change in condition	
· Evaporation rate	Not applicable.
<b>Information with regard to physical hazard classes</b>	
· 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	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

## SECTION 10: Stability and reactivity

· 10.1 Reactivity	No further relevant information available.
· 10.2 Chemical stability	
· Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
· 10.3 Possibility of hazardous reactions	No dangerous reactions known.
· 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:	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.

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**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

**78-63-7 2,5-Dimethyl-2,5-di-(tert.-butylperoxy)-hexane**

Oral	LD50	>2.000 mg/kg (rattus)
Dermal	LD50	>2.000 mg/kg (cuniculosus)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· **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:**

**78-63-7 2,5-Dimethyl-2,5-di-(tert.-butylperoxy)-hexane**

Degradation (Not readily biodegradable) (OECD 301 D)

**12.3 Bioaccumulative potential**

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

78-63-7	2,5-Dimethyl-2,5-di-(tert.-butylperoxy)-hexane	7,34 (20°C)
75-65-0	2-methylpropan-2-ol	0,32 (20°C)
110-05-4	di-tert-butyl peroxide	3,2 (22°C)

· **Bioconcentration factor (BCF)**

**78-63-7 2,5-Dimethyl-2,5-di-(tert.-butylperoxy)-hexane**

BCF 521-839

· **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**

· **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**



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.

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- **Uncleaned packaging:**
- **Recommendation:** This material and its container must be disposed of as hazardous waste.

#### SECTION 14: Transport information

· <b>14.1 UN number or ID number</b> · ADR, IMDG, IATA	Void
· <b>14.2 UN proper shipping name</b> · ADR, IMDG, IATA	Void
· <b>14.3 Transport hazard class(es)</b> · ADR, IMDG, IATA · Class	Void
· <b>14.4 Packing group</b> · ADR, IMDG, IATA	Void
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b>	Not applicable.
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	No dangerous good according the regulation of transport.
· <b>ADR</b>	
· <b>RID / GGVSEB:</b>	like ADR

#### \* 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.

- **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.

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

- **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

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.

- **Contact:** Tel: +49 2871 9902-0  
E-mail: mail@pergan.com
- **Version number of previous version:** 4
- **Abbreviations and acronyms:** 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

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

Printing date 05.01.2024

Version: 5 (replaces version 4)

Revision: 20.12.2022

Trade name: **PERGAPROP HX-5 PP**

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LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Org. Perox. C: Organic peroxides – Type C/D  
Skin Irrit. 2: Skin corrosion/irritation – Category 2

\* Data compared to the  
previous version altered.

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