

Printing date 08.01.2024 Version: 14 (replaces version 13) Revision: 22.02.2023

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

· 1.1 Product identifier

PEROXAN PO-50 P · Trade name:

1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

· Application of the substance /

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

Environment protection / Security of labour from:

Qualified person: E-mail: msds@pergan.com

1.4 Emergency telephone

- Tel: +49 2871 9902-0 number:

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008

Org. Perox. E H242 Heating may cause a fire.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Repr. 1B H360F May damage fertility. H400 Very toxic to aquatic life. Aquatic Acute 1

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Hazard pictograms

Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.



· Signal word Danger

· Hazard-determining

components of labelling: tert-butyl 2-ethylperoxyhexanoate **Hazard statements** H242 Heating may cause a fire.

May cause an allergic skin reaction. H317

H360F May damage fertility.

Very toxic to aquatic life with long lasting effects. H410

· 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. P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.

P410 Protect from sunlight.

P411+P235 Store at temperatures not exceeding +20°C. Keep cool.

P420 Store separately.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

· Additional information: Restricted to professional users.

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: 3006-82-4 tert-butyl 2-ethylperoxyhexanoate 40-50% EINECS: 221-110-7 Org. Perox. C, H242; Repr. 1B, H360F; Aquatic Chronic 2, H411; Skin Sens. 1, H317 Reg-No.: 01-2119498310-40

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

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

Take affected persons into fresh air and keep quiet.

· After skin contact: Immediately wash with water and soap and rinse thoroughly.

Immediately remove contaminated clothing.

· After eye contact: Rinse opened eye for several minutes under running water.

· After swallowing: If symptoms persist consult doctor.

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

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: 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: Inform respective authorities in case of seepage into water course or sewage system.



Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Large quantities should be diluted with suitable desensitation agent to a concentration below 10 % before

disposal.

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.

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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 dust.

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.

Dust can combine with air to form an explosive mixture.

Substance/product is oxidising when dry.

Product is not explosive. However, formation of explosive air/dust mixtures are 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 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: Protect from heat and direct sunlight.

Protect from contamination.

Storage in a collecting room is required.

Recommended storage temperature (To maintain

max.: +15 °C quality):

Control temperature: +20 °C Emergency temperature: +25 °C

5.2 7.3 Specific end use(s) No further relevant information available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Storage class:

· 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

3006-82-4 tert-butyl 2-ethylperoxyhexanoate

DNEL Longterm System 5,6 mg/kg bw/day (Worker) Inhalative DNEL Longterm System 9,8 mg/m3 (Worker)

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· PNFCs

3006-82-4 tert-butyl 2-ethylperoxyhexanoate

PNEC Marinewater sed | 0,0622 mg/kg sed dw 0,002 mg/l (AF 50) PNFC Freshwater PNEC Freshwater sed 0,622 mg/kg sed dw 0,64 mg/l (AF 100) PNEC STP PNEC Marinewater 0 mg/l (AF 500)

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 close or long term contact with the 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 protection: Not necessary if room is well-ventilated.

Use suitable respiratory device when it exceed exposure limit and when insufficiently ventilated.



Filter P2

· 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

The selection of the suitable gloves does not only depend on the material, but also on further marks of · Material of gloves

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 trough 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: Whitish · 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. · Upper: Not determined · Flash point: Not applicable. Decomposition temperature: +35 °C (SADT) Not applicable.

· pH

Viscosity: · Kinematic viscosity Not applicable.

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· Dvnamic: · Solubility water: · Partition coefficient n-octanol/water (log value)

· Vapour pressure: · Density and/or relative density

Density at 20 °C: · Relative density Vapour density · Particle characteristics

Bulk density at 20 °C:

Not applicable. 1,3 g/cm³ Not determined. 310 kg/m3 Not applicable.

Not applicable.

Undetermined.

not determined

See section 3

9.2 Other information

No further relevant information available.

Not applicable.

Appearance:

Form:

Powder

Void

3,6 - 3,8 %

Heating may cause a fire.

· Important information on protection of health and environment,

and on safety.

Ignition temperature: Product is not selfigniting.

Product is not explosive. However, formation of explosive air/dust Explosive properties:

mixtures are possible.

· Change in condition

· Evaporation rate

· Information with regard to physical hazard classes · Explosives Flammable gases · Aerosols

· Oxidising gases · Gases under pressure Flammable liquids · Flammable solids

· Self-reactive substances and mixtures · Pyrophoric liquids · Pyrophoric solids

· Self-heating substances and mixtures Substances and mixtures, which emit flammable gases in contact with water

· Oxidising liquids Oxidising solids · Organic peroxides

Corrosive to metals

· Desensitised explosives Other safety characteristics

SECTION 10: Stability and reactivity

Active oxygen

· 10.1 Reactivity 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided: No further relevant information available.

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 selfaccelerating 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. No decomposition if used and stored according to specifications.

To avoid thermal decomposition do not overheat.

· 10.3 Possibility of hazardous reactions

· 10.4 Conditions to avoid

Self-accelerating decomposition at SADT. No further relevant information available.

· 10.5 Incompatible materials: Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g.

heavy-metal compounds and amines).

· 10.6 Hazardous decomposition

products:

Hydrocarbons, carbondioxide and -monoxid.

No hazardous decomposition products if used and stored according to specifications.

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(Contd. of page 5) · 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 toxicity Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

3006-82-4 tert-butyl 2-ethylperoxyhexanoate

Oral LD50 >10.000 mg/kg (rattus)

Dermal LD50 14.142-20.000 mg/kg (cuniculosus)

Inhalative LC50 / 4h 42,2 mg/l (rattus)

· 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 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 May damage fertility.

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:

3006-82-4 tert-butyl 2-ethylperoxyhexanoate

EC50 / 72h | 0,44 mg/l (alga (Süsswasser)) LC50 / 96h 8,66 mg/l (poecilia reticulata)

EC50 / 48h 7,5 mg/l (daphnia)

12.2 Persistence and degradability

· Degree of elimination:

· Classification:

3006-82-4 tert-butyl 2-ethylperoxyhexanoate

Degradation (Readily biodegradable) (OECD 301 D)

12.3 Bioaccumulative potential

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

3006-82-4 tert-butyl 2-ethylperoxyhexanoate

4,79 (20°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.

· Remark: Toxic for fish

· Additional ecological information:

General notes: Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

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SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation



After diluting with a suitable inert solid material to 10 %, the product 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

· Waste disposal key: Please contact your hazardous waste disposers to assign the right EWC-(European waste catalog)-

· Uncleaned packaging:

· Transport category · Tunnel restriction code

· Recommendation: This material and its container must be disposed of as hazardous waste.

	container must be disposed of as nazardous waste.
SECTION 14: Transport information	
· 14.1 UN number or ID number · ADR, IMDG	UN3118
· 14.2 UN proper shipping name · ADR · IMDG	UN3118 ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED (tert-BUTYLPEROXY-2-ETHYLHEXANOATE), ENVIRONMENTALLY HAZARDOUS ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED
	(tert-BUTYLPEROXY-2-ETHYLHEXANOATE), MARINE POLLUTANT
· 14.3 Transport hazard class(es)	
ADR	
· Class · Label	5.2 (P2) Organic peroxides. 5.2
·IMDG	J.2
1 1 1 1 1 1 1 1 1 1	
· Class · Label	5.2 Organic peroxides. 5.2
· IATA · Class · Label	X X
· 14.4 Packing group · ADR, IMDG	Void
14.5 Environmental hazards:	Product contains environmentally hazardous substances: tert-BUTYLPEROXY-2-ETHYLHEXANOATE
Marine pollutant: Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · Stowage Category · Stowage Code	Warning: Organic peroxides D SW1 Protected from sources of heat.
· Segregation Code	SW3 Shall be transported under temperature control. SG35 Stow "separated from" SGG1-acids SG36 Stow "separated from" SGG18-alkalis.
· 14.7 Maritime transport in bulk according to IMO inst	ruments Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	0 Code: E0

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Not permitted as Excepted Quantity



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· RID / GGVSEB:	no admission
· IMDG	0
Limited quantities (LQ) Excepted quantities (EQ)	Code: E0
	Not permitted as Excepted Quantity
IATA	
· Remarks:	no admission
· Control temperature:	+20 °C
· Emergency temperature:	+25 °C

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

E1 Hazardous to the Aquatic Environment

Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t Qualifying quantity (tonnes) for the application of upper-tier 200 t requirements

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex

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.

 Department issuing SDS: Environment protection / Security of labour

Contact: Tel: +49 2871 9902-0 E-mail: mail@pergan.com

· Version number of previous

version:

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RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the · Abbreviations and acronyms:

International Transport of Dangerous Goods by Rail)

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. C: Organic peroxides – Type C/D Org. Perox. E: Organic peroxides – Type E/F

Skin Sens. 1: Skin sensitisation – Category 1 Repr. 1B: Reproductive toxicity – Category 1B

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



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Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1 Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

* * Data compared to the previous version altered.

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