


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

- **1.1 Product identifier**
- **Trade name:** PEROXAN OPN-50 WN-A
- **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  
Competent person:  
\* Sales Manager Germany: Mr. Ansgar Pappenheim, e-mail: a.pappenheim@pergan.com  
\* Export Sales Manager: Mr. Dr. Thomas Philipps, e-mail: dr.philipps@pergan.com  
\* Environment protection / : Mr. Christoph Wiltung, e-mail: c.wiltung@pergan.com  
Security of labour
- **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. F H242 Heating may cause a fire.  
Acute Tox. 4 H302 Harmful if swallowed.  
Skin Irrit. 2 H315 Causes skin irritation.  
Repr. 1B H360F May damage fertility.  
STOT SE 1 H370 Causes damage to the central nervous system and the visual organs.
- **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 GHS07 GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:** methanol  
1,1,3,3-tetramethylbutyl peroxyneodecanoate
- **Hazard statements**  
H242 Heating may cause a fire.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H360F May damage fertility.  
H370 Causes damage to the central nervous system and the visual organs.
- **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.  
P370+P378 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.  
P405 Store locked up.  
P410 Protect from sunlight.  
P411+P235 Store at temperatures not exceeding -5°C. Keep cool.  
P420 Do not mix with peroxide-accelerators or reducing agents.  
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:** Not applicable.

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· vPvB: Not applicable.

### SECTION 3: Composition/information on ingredients

#### · 3.2 Chemical characterisation: Mixtures

##### · Dangerous components:

CAS: 51240-95-0 EINECS: 257-077-0 Reg-No.: 01-2119966140-44	1,1,3,3-tetramethylbutyl peroxyneodecanoate Org. Perox. D, H242; Repr. 1B, H360F; Skin Irrit. 2, H315	40-50%
CAS: 67-56-1 EINECS: 200-659-6 Index number: 603-001-00-X Reg-No.: 01-2119433307-44	methanol Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370	10-20%

· **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:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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

Take affected persons into fresh air and keep quiet.

##### · 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:

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, carbon dioxide 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

#### · 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 item 13.  
Ensure adequate ventilation.

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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.

## SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Keep away from heat and direct sunlight.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.

Do not refill residue into storage receptacles.

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.



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:**

Keep container tightly sealed.

Protect from heat and direct sunlight.

Protect from contamination.

Store under lock and key and out of the reach of children.

Storage in a collecting room is required.

· **Recommended storage temperature (To maintain quality):**

-20 .... -15 °C

· **Control temperature:**

-5 °C

· **Emergency temperature:**

+5 °C

· **Storage class:**

5.2

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· **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

### · 8.1 Control parameters

#### · Additional information about

**design of technical facilities:** No further data; see item 7.

#### · Ingredients with limit values that require monitoring at the workplace:

##### 67-56-1 methanol

OEL (Ireland)	Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Sk, IOELV
IOELV (EU)	Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Skin
WEL (Great Britain)	Short-term value: 333 mg/m <sup>3</sup> , 250 ppm Long-term value: 266 mg/m <sup>3</sup> , 200 ppm Sk

#### · DNELs

##### 51240-95-0 1,1,3,3-tetramethylbutyl peroxyneodecanoate

Dermal	DNEL Longterm System	1 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	0,7 mg/m <sup>3</sup> (Worker)

##### 67-56-1 methanol

Dermal	DNEL Longterm System	40 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	260 mg/m <sup>3</sup> (Worker)

#### · PNECs

##### 51240-95-0 1,1,3,3-tetramethylbutyl peroxyneodecanoate

PNEC Marinewater sed	0,16 mg/kg sed dw (-)
PNEC Freshwater	0,00033 mg/l (AF 100)
PNEC Freshwater sed	1,66 mg/kg sed dw (-)
PNEC Soil	0,33 mg/kg soil dw (-)
PNEC STP	127,6 mg/l (AF 10)
PNEC Marinewater	0,000033 mg/l (AF 1.000)

##### 67-56-1 methanol

PNEC Marinewater sed	7,7 mg/kg sed dw (-)
PNEC Freshwater	20,8 mg/l (AF 10)
PNEC Freshwater sed	77 mg/kg sed dw (-)
PNEC Soil	100 mg/kg soil dw (AF 10)
PNEC STP	100 mg/l (AF 10)
PNEC Marinewater	2,08 mg/l (AF 100)

· **Additional information:** The lists valid during the making were used as basis.

### · 8.2 Exposure controls

#### · 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.

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.

· **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.

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



Filter A2

##### · Protection of hands:

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

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· <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 protection:</b>	 Tightly sealed goggles
· <b>Body protection:</b>	 Protective work clothing

### SECTION 9: Physical and chemical properties

<b>9.1 Information on basic physical and chemical properties</b>	
<b>General Information</b>	
· <b>Appearance:</b>	
· <b>Form:</b>	emulsion
· <b>Colour:</b>	colourless - yellowish
· <b>Odour:</b>	Characteristic
· <b>Odour threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
· <b>Melting point/freezing point:</b>	Not applicable.
· <b>Initial boiling point and boiling range:</b>	Not applicable.
· <b>Flash point:</b>	Not determined.
· <b>Flammability (solid, gas):</b>	Not applicable.
· <b>Decomposition temperature:</b>	+15 °C (SADT)
· <b>Auto-ignition temperature:</b>	Product is not selfigniting.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Vapour pressure:</b>	Not determined.
· <b>Density:</b>	
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
· <b>water:</b>	Emulsifiable.
· <b>Partition coefficient: n-octanol/water:</b>	not determined
· <b>Viscosity:</b>	
· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.
· <b>9.2 Other information</b>	No further relevant information available.
· <b>Active oxygen</b>	2,6 - 2,7 %

### SECTION 10: Stability and reactivity

· <b>10.1 Reactivity</b>	No further relevant information available.
· <b>10.2 Chemical stability</b>	
· <b>Thermal decomposition / conditions to be avoided:</b>	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.

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- **10.3 Possibility of hazardous reactions** No decomposition if used and stored according to specifications. To avoid thermal decomposition do not overheat.
- **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, carbon dioxide and -monoxid. 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 toxicological effects**
- **Acute toxicity** Harmful if swallowed.
- **LD/LC50 values relevant for classification:**
- 51240-95-0 1,1,3,3-tetramethylbutyl peroxyneodecanoate**
- Oral | LD50 | >5.000 mg/kg (rattus)
- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes skin irritation.
- **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.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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** Causes damage to the central nervous system and the visual organs.
- **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.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
- 67-56-1 methanol**
- LC50 / 96h | 15.400 mg/l (Iepomis macrochirus)
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water. Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### 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.



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

### SECTION 14: Transport information

<ul style="list-style-type: none"> <li>· <b>14.1 UN-Number</b></li> <li>· <b>ADR, IMDG</b></li> </ul>	UN3119
<ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG</b></li> </ul>	UN3119 ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED (1,1,3,3-TETRAMETHYLBUTYL PEROXYNEODECANOATE) ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED (1,1,3,3-TETRAMETHYLBUTYL PEROXYNEODECANOATE)
<ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR</b></li> </ul>	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	5.2 (P2) Organic peroxides. 5.2
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> </ul>	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	5.2 Organic peroxides. 5.2
<ul style="list-style-type: none"> <li>· <b>IATA</b></li> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	X X
<ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR, IMDG</b></li> </ul>	Void
<ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>	No
<ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> <li>· <b>Hazard identification number (Kemler code):</b></li> <li>· <b>Stowage Category</b></li> <li>· <b>Stowage Code</b></li> <li>· <b>Segregation Code</b></li> </ul>	Warning: Organic peroxides. - D SW1 Protected from sources of heat. SW3 Shall be transported under temperature control. SG35 Stow "separated from" SGG1-acids SG36 Stow "separated from" SGG18-alkalis.
<ul style="list-style-type: none"> <li>· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> </ul>	<ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> <li>· <b>Transport category</b></li> <li>· <b>Tunnel restriction code</b></li> </ul>
<ul style="list-style-type: none"> <li>· <b>RID / GGVSEB:</b></li> </ul>	no admission
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	0 Code: E0 Not permitted as Excepted Quantity
<ul style="list-style-type: none"> <li>· <b>IATA</b></li> <li>· <b>Remarks:</b></li> </ul>	no admission
<ul style="list-style-type: none"> <li>· <b>Control temperature:</b></li> </ul>	-5 °C

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· Emergency temperature:	+5 °C
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### 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
  - Seveso category
  - Qualifying quantity (tonnes) for the application of lower-tier requirements
  - Qualifying quantity (tonnes) for the application of upper-tier requirements
  - REGULATION (EC) No 1907/2006 ANNEX XVII
- None of the ingredients is listed.
- H3 STOT SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE  
P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES
- 50 t
- 200 t
- Conditions of restriction: 3, 69

### SECTION 16: Other information

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

- Relevant phrases
  - Department issuing SDS:
  - Contact:
  - Abbreviations and acronyms:
- H225 Highly flammable liquid and vapour.  
H242 Heating may cause a fire.  
H301 Toxic if swallowed.  
H311 Toxic in contact with skin.  
H315 Causes skin irritation.  
H331 Toxic if inhaled.  
H360F May damage fertility.  
H370 Causes damage to organs.
- Environment protection / Security of labour  
Tel: +49 2871 9902-0  
E-mail: mail@pergan.com
- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the 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  
Flam. Liq. 2: Flammable liquids – Category 2  
Org. Perox. D: Organic peroxides – Type C/D  
Org. Perox. F: Organic peroxides – Type E/F  
Acute Tox. 3: Acute toxicity – Category 3  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Repr. 1B: Reproductive toxicity – Category 1B  
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

· \* Data compared to the previous version altered.