


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

- **1.1 Product identifier**
- **Trade name:** PEROXAN OPN-70 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**
Flam. Liq. 3 H226 Flammable liquid and vapour.
Org. Perox. D H242 Heating may cause a fire.
Skin Irrit. 2 H315 Causes skin irritation.
Repr. 1B H360F May damage fertility.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms** 
GHS02 GHS07 GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:** Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics
1,1,3,3-tetramethylbutyl peroxyneodecanoate
- **Hazard statements**
H226 Flammable liquid and vapour.
H242 Heating may cause a fire.
H315 Causes skin irritation.
H360F May damage fertility.
H304 May be fatal if swallowed and enters airways.
- **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.
P243 Take action to prevent static discharges.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P303+P361+P353 IF 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.
P405 Store locked up.
P410 Protect from sunlight.
P411 Store at temperatures not exceeding -5°C.
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 UK REACH, annex XIII.

Trade name: **PEROXAN OPN-70 S**

(Contd. of page 1)

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

SECTION 3: Composition/information on ingredients

· 3.2 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	60-70%
EC number: 918-481-9 Reg-No.: 01-2119457273-39	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics Alternative CAS number: 64742-48-9 Asp. Tox. 1, H304	25-30%

· **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:

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. If symptoms persist, consult a doctor.

· After swallowing:

If symptoms persist consult doctor.

· 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:** CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· For safety reasons unsuitable extinguishing agents:

Water with full jet

· 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.
After exceeding the emergency temperature must be diluted with a suitable desensitisation agent to < 10 %. In case of further temperature should be cooled with waterspray from a safe distance. Take precautionary measures against static discharges. 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.

(Contd. on page 3)

Trade name: **PEROXAN OPN-70 S**

(Contd. of page 2)

- **6.4 Reference to other sections** In case of large spillage the environmental authority should be informed.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

Keep receptacles tightly sealed.
 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).
 The product must be preserved, stored and transported continuously cool.
 Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
 Avoid contact with skin and eyes.
 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.
 Storage in a collecting room is required.

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

max.: -15°C

- **Control temperature:**

-5°C

- **Emergency temperature:**

+5°C

- **Storage class:**

5.2

- **7.3 Specific end use(s)**

No further relevant information available.

Trade name: **PEROXAN OPN-70 S**

(Contd. of page 3)

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

Dermal	DNEL Longterm System	5 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	3.5 mg/m ³ (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)

· **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.
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.

· **Hand protection**

Filter A2

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

Trade name: **PEROXAN OPN-70 S**

(Contd. of page 4)

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

9.1 Information on basic physical and chemical properties	
General Information	
· Colour:	Colourless
· Odour:	Characteristic
· Melting point/freezing point:	Undetermined.
· Boiling point or initial boiling point and boiling range	Undetermined.
· Flash point:	> SADT
· Decomposition temperature:	+15 °C (SADT)
· Viscosity:	
· Dynamic:	Not determined.
· Solubility	
· water:	Not miscible or difficult to mix.
· Partition coefficient n-octanol/water (log value)	not determined
· Density and/or relative density	
· Density:	Not determined.
9.2 Other information	
· Appearance:	
· Form:	Fluid
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.
Information with regard to physical hazard classes	
· 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 contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Heating may cause a fire.
· Corrosive to metals	Void
· Desensitised explosives	Void
· Other safety characteristics	
· Active oxygen	3.7 - 3.8 %

SECTION 10: Stability and reactivity

· 10.1 Reactivity	No further relevant information available.
· 10.2 Chemical stability	
· Thermal decomposition / 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. No decomposition if used and stored according to specifications. To avoid thermal decomposition do not overheat.
· 10.3 Possibility of hazardous reactions	Self-accelerating decomposition at SADT.
· 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:	Hydrocarbons, carbon dioxide and -monoxid. No hazardous decomposition products if used and stored according to specifications.

(Contd. on page 6)

Trade name: **PEROXAN OPN-70 S**

(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:**

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

Oral LD50 >5,000 mg/kg (rattus)

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics

Oral LD50 >5,000 mg/kg (rattus)

- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Low irritant effect
- **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** 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** May be fatal if swallowed and enters airways.

· **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:**

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

Degradation (Evidence for inherent biodegradability.) (OECD 301 D)

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

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.

Trade name: **PEROXAN OPN-70 S**

(Contd. of page 6)

SECTION 14: Transport information

· 14.1 UN number or ID number · ADR, IMDG, IATA	UN3115
· 14.2 UN proper shipping name · ADR · IMDG, IATA	UN3115 ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED (1,1,3,3-TETRAMETHYLBUTYL PEROXYNEODECANOATE) ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED (1,1,3,3-TETRAMETHYLBUTYL PEROXYNEODECANOATE)
· 14.3 Transport hazard class(es) · ADR  · Class · Label	5.2 (P2) Organic peroxides. 5.2
· IMDG, IATA  · Class · Label	5.2 Organic peroxides. 5.2
· 14.4 Packing group · ADR, IMDG	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · Stowage Category · Stowage Code · Segregation Code	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.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code	0 Code: E0 Not permitted as Excepted Quantity 1 D
· RID / GGVSEB:	no admission
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	0 Code: E0 Not permitted as Excepted Quantity
· IATA · Remarks:	no admission
· Control temperature: · Emergency temperature:	-5°C +5°C

*** SECTION 15: Regulatory information**

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

· Regulated explosives precursors

None of the ingredients is listed.

(Contd. on page 8)

Trade name: **PEROXAN OPN-70 S**

(Contd. of page 7)

· Regulated poisons	
None of the ingredients is listed.	
· Reportable explosives precursors	
None of the ingredients is listed.	
· Reportable poisons	
None of the ingredients is listed.	
· 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
· 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 (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.	
· National regulations:	
· Other regulations, limitations and prohibitive regulations	
· Please note:	Take care of the respective local regulations.

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	H242 Heating may cause a fire. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H360F May damage fertility.
· Department issuing SDS:	Environment protection / Security of labour
· Contact:	Tel: +49 2871 9902-0 E-mail: mail@pergan.com
· Abbreviations and acronyms:	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 (UK REACH) PNEC: Predicted No-Effect Concentration (UK REACH) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Flam. Liq. 3: Flammable liquids – Category 3 Org. Perox. D: Organic peroxides – Type C/D Skin Irrit. 2: Skin corrosion/irritation – Category 2 Repr. 1B: Reproductive toxicity – Category 1B Asp. Tox. 1: Aspiration hazard – Category 1
· * Data compared to the previous version altered.	