

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

1.1 Product identifier

- Trade name: **PEROXAN HXY-85 W**
- CAS Number: 1068-27-5
- EC number: 213-944-5
- Registration number: 01-2120752828-4

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:

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 / Security of labour : Mr. Christoph Wiltung, e-mail: c.wiltung@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.
 Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms



GHS02

Signal word

Danger

Hazard-determining components of labelling:

di-tert-butyl 1,1,4,4-tetramethylbut-2-yn-1,4-ylene diperoxide

Hazard statements

H242 Heating may cause a fire.
 H413 May cause long lasting harmful effects to aquatic life.

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 container.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P410 Protect from sunlight.
 P411+P235 Store at temperatures not exceeding +30°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.

2.3 Other hazards

Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation: Substances

- CAS No. Description: 1068-27-5 di-tert-butyl 1,1,4,4-tetramethylbut-2-yn-1,4-ylene diperoxide
- Identification number(s):
- EC number: 213-944-5

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· **Additional information:** 2,5-bis(tert-butylperoxy)-2,5-dimethylhex-3-yne (85% in white mineral oil)

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.

· 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.

· 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

Remove persons from danger area.
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 desensitization 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.
Open and handle receptacle with care.
Prevent formation of aerosols.
Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
Handle with care. Avoid jolting, friction and impact.
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).

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Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).

Oxidizing because of releasing oxygene.

While using do not eat, drink or smoke.

Avoid shock and friction.



Do not smoke.

Information about fire - and explosion protection:

Protect from heat.

Prevent impact and friction.

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.
Store under lock and key and with access restricted to technical experts or their assistants only.
Storage in a collecting room is required.

Recommended storage temperature (To maintain quality): +10 +30 °C

Storage class: 5.2

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

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace:

Not required.

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.

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

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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<ul style="list-style-type: none"> · Material of gloves · Penetration time of glove material · Eye protection: · Body protection: 	<p>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</p> <p>The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.</p> <p> Tightly sealed goggles</p> <p> Protective work clothing</p>
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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance:	
· Form:	Fluid
· Colour:	Yellowish
· Odour:	Characteristic
· Odour threshold:	Not determined.
· pH-value:	Not determined.
Change in condition	
· Melting point/freezing point:	Not applicable.
· Initial boiling point and boiling range:	Not applicable.
· Flash point:	69 °C
· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	+80 °C (SADT)
· Auto-ignition temperature:	Not determined.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 20 °C:	0,88 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
Solubility in / Miscibility with	
· water:	Undetermined.
· Partition coefficient: n-octanol/water:	not determined
Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
9.2 Other information	
· Active oxygen	9,4 - 9,6 %

SECTION 10: Stability and reactivity

<ul style="list-style-type: none"> · 10.1 Reactivity · 10.2 Chemical stability · Thermal decomposition / conditions to be avoided: 	<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 cause decomposition at and above the temperature. Contact with incompatible substances can cause decomposition at or below the SADT.</p>
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<ul style="list-style-type: none"> · 10.3 Possibility of hazardous reactions · 10.4 Conditions to avoid · 10.5 Incompatible materials: · 10.6 Hazardous decomposition products: · Additional information: 	<p>No decomposition if used and stored according to specifications. To avoid thermal decomposition do not overheat.</p> <p>Self-accelerating decomposition at SADT. 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> <p>Hydrocarbons, carbondioxide and -monoxid. 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 plane in place.</p>
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SECTION 11: Toxicological information

<ul style="list-style-type: none"> · 11.1 Information on toxicological effects · Acute toxicity · Primary irritant effect: · Skin corrosion/irritation · Serious eye damage/irritation · Respiratory or skin sensitisation · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction) · Germ cell mutagenicity · Carcinogenicity · Reproductive toxicity · STOT-single exposure · STOT-repeated exposure · Aspiration hazard 	<p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p> <p>Based on available data, the classification criteria are not met.</p>
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SECTION 12: Ecological information

<ul style="list-style-type: none"> · 12.1 Toxicity · Aquatic toxicity: · 12.2 Persistence and degradability · 12.3 Bioaccumulative potential · 12.4 Mobility in soil · Additional ecological information: · General notes: · 12.5 Results of PBT and vPvB assessment · PBT: · vPvB: · 12.6 Other adverse effects 	<p>No further relevant information available.</p> <p>No further relevant information available.</p> <p>No further relevant information available.</p> <p>No further relevant information available.</p> <p>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.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>No further relevant information available.</p>
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SECTION 13: Disposal considerations

<ul style="list-style-type: none"> · 13.1 Waste treatment methods · Recommendation · Waste disposal key: · Uncleaned packaging: · Recommendation: 	<div style="display: flex; align-items: flex-start;"> <div style="margin-right: 10px;">  </div> <div> <p>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.</p> <p>Must not be disposed together with household garbage. Do not allow product to reach sewage system.</p> </div> </div> <p>Please contact your hazardous waste disposers to assign the right EWC-(European waste catalog)-number.</p> <p>This material and its container must be disposed of as hazardous waste.</p>
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SECTION 14: Transport information

<ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA 	<p>UN3103</p>
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<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA 	<p>UN3103 ORGANIC PEROXIDE TYPE C, LIQUID (2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY) HEXYNE-3) ORGANIC PEROXIDE TYPE C, LIQUID (2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY) HEXYNE-3)</p>
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR  <ul style="list-style-type: none"> · Class · Label 	<p>5.2 (P1) Organic peroxides. 5.2</p>
<ul style="list-style-type: none"> · IMDG, IATA  <ul style="list-style-type: none"> · Class · Label 	<p>5.2 Organic peroxides. 5.2</p>
<ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA 	<p>Void</p>
<ul style="list-style-type: none"> · 14.5 Environmental hazards: 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · 14.6 Special precautions for user · Danger code (Kemler): · Stowage Category · Stowage Code · Segregation Code 	<p>Warning: Organic peroxides. - D SW1 Protected from sources of heat. SG35 Stow "separated from" SGG1-acids SG36 Stow "separated from" SGG18-alkalis.</p>
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code 	<p>25 ml Code: E0 Not permitted as Excepted Quantity 1 D</p>
<ul style="list-style-type: none"> · RID / GGVSEB: 	<p>like ADR</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>25 ml Code: E0 Not permitted as Excepted Quantity</p>

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 Substance is not 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

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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

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

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