

Safety data sheet according to 1907/2006/EC (REACH)

Printing date 21.12.2012

Rev. n. 4

Revision: 01.12.2012

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

1.1 Product identifier

Trade name: **PERVELOX EVO 50**

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

No further relevant information available.

Application of the substance / the preparation

Dibenzoyl peroxide, paste
Hardening agent/ Curing agent
Catalyst

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Airo-chemie A. Schmiemann GmbH & Co. KG
Carl-Leverkus-Straße 27
D-40764 Langenfeld
Tel. +49 (0)2173-8538-0 Fax. +49 (0)2173-8538-70

Further information obtainable from: E-mail: n.brinkhoff@airo-chemie.com Tel. +49 (0) 30-30686790

1.4 Emergency telephone number:

Airo-chemie A. Schmiemann GmbH Co. KG - Tel. +49 (0) 30-30686790

CENTRI ANTIVELENI (h24 - informazioni in italiano):

Milano - Ospedale Niguarda - Tel. +39 02 66101029

Pavia - IRCCS Fondazione Maugeri - Tel. +39 0382 24444

Firenze - Azienda Ospedaliera Careggi - Tel. +39 055 4277238

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Org. Perox. EF H242 Heating may cause a fire.
Aquatic Acute 1 H400 Very toxic to aquatic life.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi; Irritant

R36: Irritating to eyes.

Xi; Sensitising

R43: May cause sensitisation by skin contact.

O; Oxidising

R7: May cause fire.

N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

The Dibenzoyl Peroxide is classified as Oxidizing because it's strongly desensitized by organic liquids and/or inert solid materials and/or water.

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



GHS09

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· **Signal word** Warning

· **Hazard-determining components of labelling:**

dibenzoyl peroxide

· **Hazard statements**

H242 Heating may cause a fire.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P411+P235 Store at temperatures not exceeding 30 °C. Keep cool.

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

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

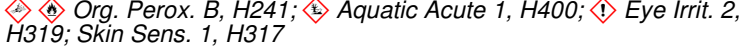
· **PBT:** Not applicable.· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Components:**

CAS: 94-36-0 EINECS: 202-327-6 Index number: 617-008-00-0 Reg.nr.: 01-2119511472-50-XXXX	dibenzoyl peroxide  Xi R36; Xi R43; E R3; O R7; N R50  Org. Perox. B, H241; Aquatic Acute 1, H400; Eye Irrit. 2, H319; Skin Sens. 1, H317	45-52%
CAS: 131-11-3 EINECS: 205-011-6 Reg.nr.: 01-2119437229-36-XXXX	dimethyl phthalate	25-35%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **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.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Do not induce vomiting; call for medical help 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:**

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

Use fire extinguishing methods suitable to surrounding conditions.

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbonic anhydride (CO₂)

Carbon monoxide (CO)

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Benzoic acid

Benzene

Biphenyl

Phenyl benzoate

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.

Mouth respiratory protective device.

Wear suitable fire protection equipment.

· Additional information

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures**· 6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Keep away from ignition sources.

Ensure adequate ventilation

· 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:

Pick up mechanically.

Do not allow to dry out

Ensure adequate ventilation.

· 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.

SECTION 7: Handling and storage**· 7.1 Precautions for safe handling**

Use only in well ventilated areas.

Ensure good ventilation/exhaustion at the workplace.

Keep away from heat and direct sunlight.

Protect against electrostatic charges.

· Information about fire - and explosion protection:

Protect from heat.

Keep ignition sources away - Do not smoke.

Substance/product is oxidizing when dry.

· 7.2 Conditions for safe storage, including any incompatibilities**· Storage:****· Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Store only in the original receptacle.

· Information about storage in one common storage facility:

Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.

· Further information about storage conditions:

Keep container tightly sealed.

Prevent from drying out.

Protect from heat and direct sunlight.

Store receptacle in a well ventilated area.

The product, stored in the original containers, away from sunlight, maintains its properties for 12 months from the delivery date.**· 7.3 Specific end use(s) No further relevant information available.**

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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:**

94-36-0 dibenzoyl peroxide

WEL (Great Britain)	Long-term value: 5 mg/m ³
PEL (USA)	Long-term value: 5 mg/m ³
REL (USA)	Long-term value: 5 mg/m ³
TLV (USA)	Long-term value: 5 mg/m ³

131-11-3 dimethyl phthalate

WEL (Great Britain)	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³
PEL (USA)	Long-term value: 5 mg/m ³
REL (USA)	Long-term value: 5 mg/m ³
TLV (USA)	Long-term value: 5 mg/m ³

· DNELs

94-36-0 dibenzoyl peroxide

Oral	DNEL/ Long term exposure- Systemic effects	1.65 mg/kg bw/d (general population)
Dermal	DNEL/ Long term exposure- Systemic effects	3.3 mg/kg bw/d (general population) 6.6 mg/kg bw/d (workers)
Inhalative	DNEL/ Long term exposure- Systemic effects	2.9 mg/m ³ (general population) 11.75 mg/m ³ (workers)

131-11-3 dimethyl phthalate

Oral	DNEL/ Long term exposure- Systemic effects	25 mg/kg bw/d (general population)
Dermal	DNEL/ Long term exposure- Systemic effects	60 mg/kg bw/d (general population) 100 mg/kg bw/d (workers)
Inhalative	DNEL/ Long term exposure- Systemic effects	86.96 mg/m ³ (general population) 293.86 mg/m ³ (workers)

· PNECs

94-36-0 dibenzoyl peroxide

PNEC/ STP	0.35 mg/l (sewage treatment plant)
PNEC/ sediment	0.338 mg/kg dw (freshwater) 0.0338 mg/kg dw (marine water)
PNEC/ soil	0.0758 mg/kg dw (-)
PNEC/aqua	0.602 mg/l (freshwater) 0.602 mg/l (intermittent releases) 0.0602 mg/l (marine water)

131-11-3 dimethyl phthalate

PNEC/ STP	4 mg/l (-)
PNEC/ sediment	1.403 mg/kg dw (freshwater)
PNEC/aqua	0.192 mg/l (freshwater) 0.39 mg/l (intermittent releases) 0.0192 mg/l (marine water)

· **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.

Do not eat, drink, smoke or sniff while working.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Immediately remove all soiled and contaminated clothing

Do not inhale gases / fumes / aerosols.

Keep away from foodstuffs, beverages and feed.

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- **Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.
- **Protection of hands:**



Protective gloves

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

- Neoprene gloves

- Nitrile rubber, NBR

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **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 protection:**



Tightly sealed goggles

- **Body protection:** Light weight protective clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:

Pasty

· Colour:

Different according to colouring

· Odour:

Characteristic

· Odour threshold:

Not determined.

· pH-value:

Not determined.

· Change in condition

· Melting point/Melting range:

Undetermined.

· Boiling point/Boiling range:

Undetermined.

· Flash point:

Not applicable.

· Flammability (solid, gaseous):

May cause fire.

· Ignition temperature:

· Decomposition temperature:

Not determined.

SADT = 50 °C

The SADT (self-accelerating decomposition temperature) is an experimentally determined temperature at which the product, in its conventional packaging will decompose in a selfaccelerating reaction.

· Self-igniting:

Not determined.

· Danger of explosion:

Product does not present an explosion hazard.

· Explosion limits:

· Lower:

Not determined.

· Upper:

Not determined.

· Vapour pressure:

Not determined.

· Density at 20 °C:

1.1 g/cm³

· Relative density

Not determined.

· Vapour density

Not determined.

· Evaporation rate

Not determined.

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· Solubility in / Miscibility with	
· water:	Insoluble.
· Partition coefficient (n-octanol/water): Not determined.	
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

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.
 Exothermic thermal decomposition.
 Visible decomposition with spontaneous ignition on heating.
 SADT = 50 °C
 SADT (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport.
 A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT.
 Contact with incompatible substances can cause decomposition at or below the SADT.
- **10.3 Possibility of hazardous reactions**
 Reacts with reducing agents.
 Reacts with heavy metals.
 Reacts with alkali, amines and strong acids.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
 Reducing agents like amines, acids, alkali, compounds based on heavy metals (p.e. accelerators)
- **10.6 Hazardous decomposition products:**
 Benzoic acid
 Benzene
 Biphenyl
 Phenyl benzoate

* SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
 - **Acute toxicity:**

· LD/LC50 values relevant for classification:		
94-36-0 dibenzoyl peroxide		
Oral	LD0	5000 mg/kg (rat)
Inhalative	LC0	24.3 mg/l (rat)
131-11-3 dimethyl phthalate		
Oral	LD50	>2400 mg/kg (rat)
Dermal	LD50	> 10000 mg/kg (rabbit)

- **Primary irritant effect:**
 - **on the skin:** No irritant effect.
 - **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
 The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
 Irritant

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

No further relevant information available.

94-36-0 dibenzoyl peroxide

EC50 / 48h	0.110 mg/l (crustacea - <i>Daphnia magna</i>) (OECD TG 202)
ErC50 / 72h	0.0711 mg/l (algae - <i>Pseudokirchneriella subcapitata</i>) (OECD TG 201)
LC50 / 96h	0.0602 mg/l (fish - <i>Oncorhynchus mykiss</i>) (OECD TG 203)
M Factor	10 (-)

131-11-3 dimethyl phthalate

EC50 / 48h	52 mg/l (daphnia)
ErC50 / 72h	259.76 mg/l (algae)
LC50 / 96h	39 mg/l (fish)

12.2 Persistence and degradability

No further relevant information available.

94-36-0 dibenzoyl peroxide

Ready Biodegradability in water / 28d	68 % (-) (OCDE TGD301 D)
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131-11-3 dimethyl phthalate

Ready Biodegradability in water / 28d	>91 % (-)
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12.3 Bioaccumulative potential

No further relevant information available.

94-36-0 dibenzoyl peroxide

Log Kow	3.2 (-) (OECD TG 117)
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131-11-3 dimethyl phthalate

BCF	57 (fish)
Log Kow	2.12 (-)

12.4 Mobility in soil

No further relevant information available.

94-36-0 dibenzoyl peroxide

Log Koc	3.8 (-) (OCDE TGD 121)
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131-11-3 dimethyl phthalate

Log Koc	1.57 (-)
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Ecotoxicological effects:

- Remark: Very toxic for fish

Additional ecological information:

General notes:

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

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.

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

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Disposal must be made according to official regulations.

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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN3108
· 14.2 UN proper shipping name · ADR · IMDG · IATA	3108 ORGANIC PEROXIDE TYPE E, SOLID, ENVIRONMENTALLY HAZARDOUS ORGANIC PEROXIDE TYPE E, SOLID, MARINE POLLUTANT ORGANIC PEROXIDE TYPE E, SOLID
· 14.3 Transport hazard class(es) · ADR, IMDG	
 	
· Class · Label	5.2 Organic peroxides. 5.2
· IATA	
	
· Class · Label	5.2 Organic peroxides. 5.2
· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	Yes Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Organic peroxides. - F-J,S-R
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Transport category · Tunnel restriction code	500 g 2 D
· UN "Model Regulation":	UN3108, ORGANIC PEROXIDE TYPE E, SOLID, ENVIRONMENTALLY HAZARDOUS, 5.2

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Other regulations, limitations and prohibitive regulations**
The data and the informations reported in the present Material Safety Data Sheet are consistent to the Directives 1967/548/EEC, 1999/45/EC, 76/769/EEC, to the Regulation 1907/2006/EC (REACH) and 1272/2008/CE (CLP) and to what prescribed by the in force regulation in matter of classification, packaging and labelling of dangerous substances and preparations. Finally, users should check and comply with specific national and local laws in matters of hazardous

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activities and environmental protection (e.g.: gassy, liquid and solid emissions) not specifically covered in this document.
 Compilation of Safety Data Sheet: Reg.UE n.453/2010 (amending Reg.EC n.1907/2006, Annex II)

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**

H241 Heating may cause a fire or explosion.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.

R36 Irritating to eyes.

R43 May cause sensitisation by skin contact.

R50 Very toxic to aquatic organisms.

R7 May cause fire.

· **Contact:**

Airo-chemie A. Schmiemann Gmbh Co. KG

Raichem S.r.l.

· **Abbreviations and acronyms:**

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

CLP: Classification, Labelling and Packaging

TLV: Threshold Limit Value

TLV-TWA: Threshold Limit Value - Time Weighted Average

TLV-STEL: Threshold Limit Value - Short Term Exposure Limit

IOELV: Indicative Occupational Exposure Limit Value

BEI: Biological Exposure Indices

LD50: Lethal dose, 50 percent

LC50: Lethal Concentration, 50 percent

Kow: Octanol-Water partition coefficient

BCF: BioConcentration Factor

LC50: LC50: Lethal Concentration, 50 percent

EC50: Effective Concentration, 50 percent

ErC50: Effective Concentration, 50 percent, growth rate

WGK: Wassergefährdungsklasse - Water hazard class [Germany]

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

ACGIH: American Conference of Governmental Industrial Hygienists [USA]

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· *** Data compared to the previous version altered.**

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

1.1 Product identifier

PEROXAN C-50 L

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

No further relevant information available.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Reaction initiator
For industrial use

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 Wilting, e-mail: c.wilting@pergan.com
Security of labour

1.4 Emergency telephone number:

- Tel: +49 2871 9902-0

2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Org. Perox. CD H242 Heating may cause a fire.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Acute Tox. 4 H302 Harmful if swallowed.
STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

C; Corrosive

R34: Causes burns.

Xn; Harmful

R22: Harmful if swallowed.

Xi; Irritant

R37: Irritating to respiratory system.

O; Oxidising

R7: May cause fire.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Classification system:

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

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



GHS02 GHS05 GHS07

Signal word

Danger

Hazard-determining components of labelling:

Hazard statements

cyclohexanone, peroxide

H242 Heating may cause a fire.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

P210 Keep away from heat/sparks/open flames/hot surfaces. - 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.

P264 Wash thoroughly after handling.

Precautionary statements

Trade name: PEROXAN C-50 L

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P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P405	Store locked up.
P410	Protect from sunlight.
P411+P235	Store at temperatures not exceeding +25°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.

3 Composition/information on ingredients

3.2 Chemical characterization: Mixtures

Dangerous components:

CAS: 123-42-2 EINECS: 204-626-7 Index number: 603-016-00-1 Reg-No.:01-2119473975-21	4-hydroxy-4-methylpentan-2-one Xi R36 Flam. Liq. 3, H226; Eye Irrit. 2, H319	30-40%
CAS: 131-11-3 EINECS: 205-011-6	dimethyl phthalate substance with a Community workplace exposure limit	30-40%
CAS: 12262-58-7 EINECS: 235-527-7 Index number: 617-010-01-9	cyclohexanone, peroxide C R34; Xn R22; E R3; O R7 Org. Perox. CD, H242; Skin Corr. 1B, H314; Acute Tox. 4, H302	20-25%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

4.1 Description of first aid measures

- **General information:** Immediately remove any clothing soiled by the product. 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:** 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. Then consult a doctor.
- **After swallowing:** Call for a doctor immediately. Drink plenty of water and provide fresh air. 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.

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.

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Self-protection first!

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.
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.

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.
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).
Oxidizing because of releasing oxygene.
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.

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- **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.
- **Recommended storage temperature (To maintain quality):** +5 +25 °C
- **7.3 Specific end use(s)** No further relevant information available.

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:**

123-42-2 4-hydroxy-4-methylpentan-2-one

WEL (Great Britain)	Short-term value: 362 mg/m ³ , 75 ppm
	Long-term value: 241 mg/m ³ , 50 ppm

131-11-3 dimethyl phthalate

WEL (Great Britain)	Short-term value: 10 mg/m ³
	Long-term value: 5 mg/m ³

- **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 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

- **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 protection:**



Tightly sealed goggles

- **Body protection:**



Protective work clothing

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9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties	
· General Information	
· Appearance:	
· Form:	Fluid
· Colour:	Colourless
· Odour:	Characteristic
· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
· Melting point/Melting range:	Not applicable.
· Boiling point/Boiling range:	Not applicable.
· Flash point:	> SADT
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	+50 °C (SADT)
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	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:	1.07 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	No further relevant information available.
· Active oxygen	5,2 - 5,5 %

10 Stability and reactivity

· 10.1 Reactivity	
· 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	
· 10.4 Conditions to avoid	
· 10.5 Incompatible materials:	
	Self-accelerating decomposition at SADT. No further relevant information available. 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.
· Additional information:	
	Emergency procedures will vary depending on conditions. The customer should have an emergency response plane in place.

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11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

123-42-2 4-hydroxy-4-methylpentan-2-one

Oral	LD50	2520 mg/kg (rattus)
Dermal	LD50	13630 mg/kg (cuniculus)

12262-58-7 cyclohexanone, peroxide

Oral	LD50	880 mg/kg (mus)
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Primary irritant effect:

on the skin: Caustic effect on skin and mucous membranes.

on the eye: Strong caustic effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information

12.1 Toxicity

Aquatic toxicity:

12262-58-7 cyclohexanone, peroxide

LC50 / 96h	48 mg/l (piscis)
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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 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.
Must not reach sewage water or drainage ditch undiluted or unneutralized.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

No further relevant information available.

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.

14 Transport information

14.1 UN-Number

ADR, IMDG, IATA UN3105

14.2 UN proper shipping name

ADR 3105 ORGANIC PEROXIDE TYPE D, LIQUID (CYCLOHEXANONPEROXIDE(S))

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· IMDG, IATA	ORGANIC PEROXIDE TYPE D, LIQUID (CYCLOHEXANONPEROXIDE(S))
· 14.3 Transport hazard class(es)	
· ADR	
	
· Class	5.2 (P1) Organic peroxides.
· Label	5.2
· IMDG, IATA	
	
· Class	5.2 Organic peroxides.
· Label	5.2
· 14.4 Packing group	
· ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Organic peroxides.
· Danger code (Kemler):	-
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	125 ml
· Transport category	2
· Tunnel restriction code	D
· RID / GGVSEB:	like ADR

15 Regulatory information

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

· National regulations:

· Other regulations, limitations and prohibitive regulations

· Please note: Take care of the respective local regulations.

· 15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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

H226 Flammable liquid and vapour.
H242 Heating may cause a fire.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.

R22 Harmful if swallowed.
R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.
R34 Causes burns.
R36 Irritating to eyes.
R7 May cause fire.

· Department issuing MSDS:

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)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized 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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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