

Printing date 04.04.2024 Version: 6 (replaces version 5) Revision: 14.02.2023

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

· 1.1 Product identifier

· Trade name: PEROXAN BIC

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. C H242 Heating may cause a fire.
Skin Irrit. 2 H315 Causes skin irritation.

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

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

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



· Signal word Danger

· Hazard-determining

components of labelling: O,O-tert-butyl isopropyl monoperoxycarbonate

Hydrocarbons, C4, 1,3-butadiene-free, polymd., triisobutylene fraction, hydrogenated

Hazard statements H226 Flammable liquid and vapour. H242 Heating may cause a fire.

P405

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H304 May be fatal if swallowed and enters airways. H410 Very toxic to aquatic life with long lasting effects.

• **Precautionary statements** P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

P234 Keep only in original packaging.
P243 Take action to prevent static discharges.
P264 Wash thoroughly after handling.
P273 Avoid release to the environment.

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]. Store locked up. Protect from sunlight.

P410 Protect from sunlight.
P411+P235 Store at temperatures not exceeding +25°C. Keep cool.

P420 Store separately.

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

regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

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

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· vPvB:

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

Determination of endocrinedisrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· Dangerous components:		
CAS: 2372-21-6	O,O-tert-butyl isopropyl monoperoxycarbonate	70-80%
EINECS: 219-143-7	Org. Perox. C, H242; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens.	
Reg-No.: 01-2120763800-56	1, H317	
CAS: 93685-81-5	Hydrocarbons, C4, 1,3-butadiene-free, polymd., triisobutylene fraction, hydrogenated	20-25%
EINECS: 297-629-8	Alternative CAS number: 13475-82-6	
Reg-No.: 01-2119490725-29	Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 4, H413	
· Additional information:	For the wording of the listed hazard phrases refer to section 16.	

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Take care of personal protection for the first aider.

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

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

Take affected persons into fresh air and keep quiet.

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

Immediately remove contaminated clothing.

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

After swallowing:

4.2 Most important symptoms and effects, both acute and

delayed 4.3 Indication of any immediate

medical attention and special

treatment needed

No further relevant information available.

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

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

5.2 Special hazards arising from

the substance or mixture

Under certain fire conditions, traces of other toxic gases cannot be excluded.

Hydrocarbons, carbondioxide and -monoxid.

5.3 Advice for firefighters

· Protective equipment: Additional information Do not inhale explosion gases or combustion gases. 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:

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

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Large quantities should be diluted with suitable desensitation 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 receptacles tightly sealed.

Store in cool, dry place in tightly closed receptacles.

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.

Handle with care. Avoid jolting, friction and impact. 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). 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:Requirements to be met by

Pay attention to the special requirements of your local autorithies for storing dangerous goods.

storerooms and receptacles:

Store in a cool location.

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.

Store in cool, dry conditions in well sealed receptacles.

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.

Store in a cool place.

Storage in a collecting room is required.

Recommended storage temperature (To maintain quality):

0 +25 °C

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4.1A · Storage class:

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

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

2372-21-6 O,O-tert-butyl isopropyl monoperoxycarbonate DNEL Longterm System 4,5 mg/kg bw/day (Worker)

Inhalative DNEL Longterm System 15,868 mg/m3 (Worker)

·PNECs

2372-21-6 O,O-tert-butyl isopropyl monoperoxycarbonate

PNEC Marinewater sed 0,00023 mg/kg sed dw (-) 0,0002 mg/l (AF 10) PNFC Freshwater PNFC Seawater 0,00002 mg/l (AF 100) PNEC Freshwater sed 0,0023 mg/kg sed dw (-) PNEC Soil 0,00034 mg/kg soil dw (-) PNFC STP

1,8 mg/l (AF 10) 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.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer · Respiratory protection:

exposure use self-contained respiratory protective device.

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

· Hand protection Only use chemical-protective gloves with CE-labelling of category III.



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

degradation

Protective gloves

· 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 trough time has to be found out by the manufacturer of the protective gloves and has to be

observed.

Eye/face protection



Tightly sealed goggles

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· Body protection:

Protective work clothing

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SECTION 9: Physical and chemical properties

	 9.1 Information on 	basic physical	and chemical	properties
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· General Information

Colourless · Colour: · Odour: Characteristic · Odour threshold: Not determined. · Melting point/freezing point: Not applicable. Boiling point or initial boiling point and boiling range Not applicable. Flammability Not applicable.

· Lower and upper explosion limit

· Lower: Not determined. · Upper: Not determined. 50 °C

· Flash point: Decomposition temperature: ca. +60 °C (SADT) Not determined. · pH

· Viscosity:

Kinematic viscosity Not determined. Dynamic at 20 °C: 2 mPas

Solubility

water: Undetermined. · Partition coefficient n-octanol/water (log value) not determined · Vapour pressure: Not determined.

Density and/or relative density

· Density at 20 °C: 0,883 g/cm³ Relative density Not determined. Vapour density Not determined.

· 9.2 Other information No further relevant information available.

Appearance:

Fluid · Form:

· Important information on protection of health and environment,

and on safety.

Ignition temperature: Product is not selfigniting

Explosive properties: Risk of explosion by shock, friction, fire or other sources of ignition.

Change in condition

Not determined. · Evaporation rate

· 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 6,7 - 6,9 %

SECTION 10: Stability and reactivity

No further relevant information available. · 10.1 Reactivity

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· 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 selfaccelerating decomposition reaction and, under certain circumstances, explosion or fire can be cause decomposition at and above the temperature. Contact with incompatible substances can cause

decomposition at or below the SADT.

No decomposition if used and stored according to specifications.

To avoid thermal decomposition do not overheat

· 10.3 Possibility of hazardous

reactions

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

· 10.4 Conditions to avoid · 10.5 Incompatible materials:

Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g.

heavy-metal compounds and amines).

· 10.6 Hazardous decomposition

products:

Hydrocarbons, carbondioxide and -monoxid.

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

· 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:

2372-21-6 O,O-tert-butyl isopropyl monoperoxycarbonate

Oral LD50 >2.000 mg/kg (rattus)

93685-81-5 Hydrocarbons, C4, 1,3-butadiene-free, polymd., triisobutylene fraction, hydrogenated

Oral LD50 >5.000 mg/kg (rattus)

Skin corrosion/irritation

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin

sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity Based on available data, the classification criteria are not met. · Carcinogenicity Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Reproductive toxicity 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. May be fatal if swallowed and enters airways.

Causes skin irritation.

 Aspiration hazard · 11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

· 12.1 Toxicity

Aquatic toxicity:

2372-21-6 O,O-tert-butyl isopropyl monoperoxycarbonate

EC50 / 48h | 0,314 mg/l (daphnia)

93685-81-5 Hydrocarbons, C4, 1,3-butadiene-free, polymd., triisobutylene fraction, hydrogenated

EC50 / 48h | >0,04 mg/l (daphnia) IC50 / 72h >0,04 mg/l (algae)

12.2 Persistence and degradability

Degree of elimination:

· Classification:

2372-21-6 O,O-tert-butyl isopropyl monoperoxycarbonate

Degradation (Readily biodegradable) (OECD 301 D)

93685-81-5 Hydrocarbons, C4, 1,3-butadiene-free, polymd., triisobutylene fraction, hydrogenated

Degradation (Not readily biodegradable)

12.3 Bioaccumulative potential

Partition coefficient: nOctanol/water: [Log Kow]

2372-21-6 O,O-tert-butyl isopropyl monoperoxycarbonate

2,5 (30°C)

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· 12.4 Mobility in soil No further relevant information available (Contd. of page 6)

· 12.5 Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting

properties

The product does not contain substances with endocrine disrupting properties.

· 12.7 Other adverse effects No further relevant information available. Very toxic for fish

· Remark:

· Additional ecological information:

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

Very toxic for aquatic organisms

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 desentisation 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.

SECTION 14: Transport information

· 14.1 UN number or ID number · ADR, IMDG, IATA	UN3103
· 14.2 UN proper shipping name · ADR	UN3103 ORGANIC PEROXIDE TYPE C, LIQUID (tertBUTYLPEROXY ISOPROPYLCARBONATE), ENVIRONMENTALLY HAZARDOUS
· IMDG	ORGANIC PEROXIDE TYPE C, LIQUID (tertBUTYLPEROXY ISOPROPYLCARBONATE), MARINE POLLUTANT
· IATA	ORGANIC PEROXIDE TYPE C, LIQUID (tertBUTYLPEROXY ISOPROPYLCARBONATE)

· 14.3 Transport hazard class(es)

· ADR





· Class 5.2 (P1) Organic peroxides. · Label

· IMDG





· Class 5.2 Organic peroxides. Label 5.2

· IATA



Class 5.2 Organic peroxides. Label 5.2

14.4 Packing group

· ADR, IMDG, IATA Void

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· 14.5 Environmental hazards: Product contains environmentally hazardous substances: tert.-

BUTYLPEROXY ISOPROPYLCARBONATE

Marine pollutant: Symbol (fish and tree) Special marking (ADR): Symbol (fish and tree)

· 14.6 Special precautions for user Warning: Organic peroxides.

· Hazard identification number (Kemler code):

· Stowage Category D · Stowage Code

SW1 Protected from sources of heat. SG35 Stow "separated from" SGG1-acids Segregation Code SG36 Stow "separated from" SGG18-alkalis.

· 14.7 Maritime transport in bulk according to IMO instruments Not applicable.

· Transport/Additional information:

· Limited quantities (LQ) Excepted quantities (EQ) Code: E0

Not permitted as Excepted Quantity · Transport category

· Tunnel restriction code

RID / GGVSEB: like ADR

·IMDG

· Limited quantities (LQ) 25 ml · Excepted quantities (EQ) Code: E0

Not permitted as Excepted Quantity

SECTION 15: Regulatory information

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

Directive 2012/18/EU

Named dangerous substances

- ANNEX I None of the ingredients is listed.

· Seveso category P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

E1 Hazardous to the Aquatic Environment

· Qualifying quantity (tonnes) for the application of lower-tier

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

200 t requirements **REGULATION (EC) No**

1907/2006 ANNEX XVII Conditions of restriction: 3

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

None of the ingredients is listed.

REGULATION (EU) 2019/1148

· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

SECTION 16: Other information

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

H226 Flammable liquid and vapour. · Relevant phrases

H242 Heating may cause a fire.

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H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects. H413 May cause long lasting harmful effects to aquatic life.

Department issuing SDS:

Environment protection / Security of labour

Contact:

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

· Version number of previous version: 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 Organisation
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

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)
CF0: Lethel concentration for Assenti

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. C: Organic peroxides – Type C/D
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

* * Data compared to the previous version altered.

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