

Printing date 29.06.2023 Version: 7 (replaces version 6) Revision: 26.06.2023

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

· 1.1 Product identifier

PEROXAN BHP-10 · Trade name:

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

No further relevant information available.

· Application of the substance /

the mixture

Reaction initiator For industrial use

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier: PERGAN GmbH

Hilfsstoffe für industrielle Prozesse

Schlavenhorst 71 D-46395 Bocholt Tel: +49 2871 9902-0 Fax: +49 2871 9902-50

· Further information obtainable

from:

Environment protection / Security of labour

Competent person:

* Sales Manager Germany: Mr. Ansgar Pappenheim, e-mail: a.pappenheim@pergan.com * Export Sales Manager: Mr. Dr. Thomas Philipps, e-mail: dr.philipps@pergan.com

* Environment protection / : Mr. Christoph Wilting, e-mail: c.wilting@pergan.com Security of labour

1.4 Emergency telephone

number:

- Tel: +49 2871 9902-0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008

H242 Heating may cause a fire. Ora. Perox. F

Acute Tox. 3 H331 Toxic if inhaled.

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

Eve Dam. 1 H318 Causes serious eye damage. H317 May cause an allergic skin reaction. Skin Sens. 1 Muta. 2 H341 Suspected of causing genetic defects. Carc. 2 H351 Suspected of causing cancer. STOT SE 3 H335 May cause respiratory irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

· Labelling according to

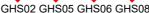
Regulation (EC) No 1272/2008 Hazard pictograms

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









· Signal word

Danger

· Hazard-determining components of labelling:

Hazard statements

tert-butyl hydroperoxide H242 Heating may cause a fire. H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer. H335 May cause respiratory irritation.

H412 Harmful 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.

P264 Wash thoroughly after handling. P273 Avoid release to the environment.

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

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with

water.

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/doctor.

P405 Store locked up.

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P410 Protect from sunlight.

P411+P235 Store at temperatures not exceeding +30°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 UK REACH, annex XIII. · 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: 75-91-2 tert-butyl hydroperoxide 10-20% EINECS: 200-915-7 Flam. Liq. 3, H226; Org. Perox. F, H242; Acute Tox. 3, H311; Acute Tox. 2, H330; Muta. 2, H341; Carc. 2, H351; Skin Corr. 1C, H314; Eye Dam. 1, H318; Aquatic Chronic 2, H411; Acute Tox. 4, H302; Reg-No.: 01-2119446670-40 Skin Sens. 1, H317 Specific concentration limits: Eye Dam. 1; H318: C ≥ 1 % Skin Sens. 1; H317: C ≥ 0.1 % STOT SE 3; H335: C ≥ 5 %

Additional information: tert-butyl hydroperoxide 70%ig in water

For the wording of the listed hazard phrases refer to section 16.

Take care of personal protection for the first aider.

SECTION 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.

· 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. Then consult a doctor. After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.

4.2 Most important symptoms

and effects, both acute and

delaved

4.3 Indication of any immediate

medical attention and special

No further relevant information available.

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: Mouth respiratory protective device.

Do not inhale explosion gases or combustion gases.

 Additional information Cool endangered receptacles with water spray.

Self-protection first!

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away from ignition sources.

In case of further temperature should be cooled with waterspray from a safe distance.

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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

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.

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).

Oxidizing because of releasing oxygene.

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 autorithies for storing dangerous goods.

Requirements to be met by 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.

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· 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 out of the reach of children.

Store in a cool place

Storage in a collecting room is required.

· Recommended storage temperature (To maintain

quality):

+5 +30 °C Storage class: 5.2

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.

75-91-2 tert-butyl hydroperoxide

Dermal	DNEL Longterm System	0.21 mg/kg bw/day (Worker)
Inhalative	DNEL Acute Systemic	85.2 mg/m3 (Worker)
	DNEL Acute Local	28.4 mg/m3 (Worker)
	DNEL Longterm System	2.2 mg/m3 (Worker)
	DNEL Longterm Local	0.58 mg/m3 (Worker)

· PNFCs

75-91-2 tert-butyl hydroperoxide

PNEC Marinewater sed | 0.001 mg/kg sed dw 0.002 mg/l (AF 1.000) PNFC Freshwater 0 mg/l (AF 10.000) **PNEC Seawater** PNEC Freshwater sed 0.006 mg/kg sed dw (-) PNEC Soil 0.166 mg/kg soil dw (AF 1.000) PNEC STP 0.17 mg/l (AF 100)

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

The usual precautionary measures are to be adhered to when handling chemicals. hygienic measures:

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.



Filter A2

· 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.

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Butyl rubber, BR

Fluorocarbon rubber (Viton)

Nitrile rubber, NBR

Neoprene

· Penetration time of glove

material

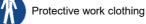
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye/face protection



Tightly sealed goggles

· Body protection:



SECTION 9: Physical and chemical properties

SECTION 9: Physical and chemical properties	
9.1 Information on basic physical and chemical properties	
· General Information	
· Colour:	Colourless
· Odour:	Pungent
· 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.
· Flash point:	Not determined.
· Decomposition temperature:	+80 °C (SADT)
· pH	Not determined.
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic:	Not determined.
· Solubility	
· water:	Undetermined.
· Partition coefficient n-octanol/water (log value)	not determined
· Vapour pressure:	Not determined.

Density and/or relative density

· Density: Not determined. Relative density Not determined. Vapour density Not determined.

9.2 Other information No further relevant information available.

· Appearance:

Fluid · Form:

and on safety.

· Important information on protection of health and environment,

· Ignition temperature: Product is not selfigniting.

Explosive properties: Product is not explosive. However, formation of explosive air/vapour

Void

Void

mixtures are possible. · Change in condition

Evaporation rate Not determined.

Information with regard to physical hazard classes	
· Explosives	

Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
Flammable liquids	Void
Flammable solids	Void

oid · Self-reactive substances and mixtures Void · Pyrophoric liquids Void Pyrophoric solids Void

· Self-heating substances and mixtures $^{\cdot}$ Substances and mixtures, which emit flammable gases in

contact with water Void Oxidising liquids Void Oxidising solids Void

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· Organic peroxides Heating may cause a fire.

· Corrosive to metals Void · Desensitised explosives Void

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. 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 Toxic if inhaled.

· LD/LC50 values relevant for classification:

75-91-2 tert-butyl hydroperoxide

Oral	LD50	805 mg/kg /(70%) (rattus)
Dermal	LD50	633 mg/kg /(70%) (cuniculosus)
Inhalative	LC50 / 4h	1.2 mg/l /(70%) (rattus)

Skin corrosion/irritation Causes severe skin burns and eye damage.

· Serious eye damage/irritation Causes serious eye damage.

Respiratory or skin

sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity Suspected of causing genetic defects.

Carcinogenicity Suspected of causing cancer.

Reproductive toxicity Based on available data, the classification criteria are not met.

• STOT-single exposure May cause respiratory irritation.

STOT-repeated exposure
Aspiration hazard

Based on available data, the classification criteria are not met.
Based on available data, the classification criteria are not met.

11.2 Information on other hazards

· Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

75-91-2 tert-butyl hydroperoxide

75-91-2 tert-butyl nydroperoxide

EC50 / 48h | 20 mg/l /(70%) (daphnia magna)

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· 12.2 Persistence and degradability

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· Degree of elimination:

· Classification:

75-91-2 tert-butyl hydroperoxide

Degradation (Not readily biodegradable) (OECD 301 D)

12.3 Bioaccumulative potential

· Partition coefficient: nOctanol/water: [Log Kow]

75-91-2 tert-butyl hydroperoxide 0,85 (30 °C) 110-05-4 di-tert-butyl peroxide 3,2 (22°C)

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 No further relevant information available.

· Remark: Harmful to fish

· Additional ecological information:

Harmful to aquatic organisms General notes:

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely 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

· 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

UN3109

· 14.2 UN proper shipping name

· ADR

UN3109 ORGANIC PEROXIDE TYPE F, LIQUID (tert-BUTYL

HYDROPEROXIDE)

· IMDG, IATA ORGANIC PEROXIDE TYPE F, LIQUID (tert-BUTYL HYDROPEROXIDE)

· 14.3 Transport hazard class(es)

· ADR





· Class 5.2 (P1) Organic peroxides. · Label 5.2+8

· IMDG





· Class 5.2 Organic peroxides

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· Label 5.2/8

· IATA



Class 5.2 Organic peroxides.

· Label 5.2 (8)

· 14.4 Packing group
· ADR, IMDG, IATA Void

14.5 Environmental hazards:

· Marine pollutant: No

• 14.6 Special precautions for user Warning: Organic peroxides.

Hazard identification number (Kemler code): 539
Stowage Category D

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

SG72 See 7.2.6.3.2.

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

· Transport/Additional information:

· ADR

Limited quantities (LQ) 125 ml Excepted quantities (EQ) Code: E0

Not permitted as Excepted Quantity

• Transport category
• Tunnel restriction code

D

· RID / GGVSEB: like ADR

· IMDG

· Limited quantities (LQ) 125 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
- 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

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.

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H226 Flammable liquid and vapour. · Relevant phrases

H242 Heating may cause a fire. H302 Harmful if swallowed. H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction. H318 Causes serious eye damage.

H330 Fatal if inhaled.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer.

H411 Toxic to aquatic life with long lasting effects.

· Department issuing SDS: Environment protection / Security of labour

Contact: Tel: +49 2871 9902-0

E-mail: mail@pergan.com

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the · Abbreviations and acronyms:

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

IMDIG: 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)

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. F: Organic peroxides – Type E/F
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 2: Acute toxicity – Category 2
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

·* Data compared to the previous version altered.