

Printing date 05.01.2024 Version: 11 (replaces version 10) Revision: 26.06.2023

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

· 1.1 Product identifier

PEROXAN BHP-70 · Trade name:

· CAS Number: 75-91-2 200-915-7 · EC number:

Registration number: 01-2119446670-40

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

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

H226 Flammable liquid and vapour. Flam. Liq. 3 Org. Perox. F H242 Heating may cause a fire. Acute Tox. 4 H302 Harmful if swallowed. Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.

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

Eye Dam. 1 H318 Causes serious eye damage. Skin Sens. 1 H317 May cause an allergic skin reaction. Muta 2 H341 Suspected of causing genetic defects. Carc. 2 H351 Suspected of causing cancer.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

# 2.2 Label elements

Labelling according to

Regulation (EC) No 1272/2008 Hazard pictograms

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









GHS02 GHS05 GHS06 GHS08 GHS09

· Signal word Danger

· Hazard-determining

components of labelling: tert-butyl hydroperoxide

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

H302 Harmful if swallowed. H311 Toxic in contact with skin.

H330 Fatal 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.

H411 Toxic to aquatic life with long lasting effects.

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

smokina.

P234 Keep only in original packaging. P243 Take action to prevent static discharges. Wash thoroughly after handling. P264

P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.

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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. P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up. 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

This substance does not meet the PBT/vPvB criteria of UK REACH, Annex XIII. This substance does not meet the PBT/vPvB criteria of UK REACH, Annex XIII. · vPvB:

## **SECTION 3: Composition/information on ingredients**

· 3.1 Substances

CAS No. Description 75-91-2 tert-butyl hydroperoxide

Identification number(s)

· EC number: 200-915-7

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

Impurities and stabilising additives:

CAS: 7732-18-5 water EINECS: 231-791-2

#### **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.

Remove breathing equipment only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Take care of personal protection for the first aider.

· After inhalation: Supply fresh air or oxygen; call for 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.

No further relevant information available.

· 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

4.3 Indication of any immediate

medical attention and special

treatment needed No further relevant information available

## **SECTION 5: Firefighting measures**

5.1 Extinguishing media

Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· For safety reasons unsuitable extinguishing agents:

Water with full jet

5.2 Special hazards arising from

the substance or mixture Under certain fire conditions, traces of other toxic gases cannot be excluded.

Hydrocarbons, carbondioxide and -monoxid.

5.3 Advice for firefighters · Protective equipment:

Mouth respiratory protective device.

Do not inhale explosion gases or combustion gases. · Additional information Cool endangered receptacles with water spray.

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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.

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.

Do not flush with water or aqueous cleansing agents

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.

Keep respiratory protective device available.

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.

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· 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.

· 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 under lock and key and out of the reach of children.

Store in a cool place.

· Recommended storage

temperature (To maintain

quality):

+5 .... +30 °C 5 2

Storage class: 5

· 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: Not required.

Dern Inhal

### 75-91-2 tert-butyl hydroperoxide

7. 2 tolt butyl nyulopoloxiuo			
mal	DNEL Longterm System	0.21 mg/kg bw/day (Worker)	
alative	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)	

#### · PNECs

### 75-91-2 tert-butyl hydroperoxide

PNEC Marinewater sed | 0.001 mg/kg sed dw |
PNEC Freshwater | 0.002 mg/l (AF 1.000) |
PNEC Seawater | 0 mg/l (AF 10.000) |
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

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

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work.

Store protective clothing separately. Avoid close or long term contact with the skin. Avoid contact with the eyes and skin. Do not eat, drink, smoke or sniff while working. Use skin protection cream for skin protection.

Be sure to clean skin thoroughly after work and before breaks.

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

exposure use self-contained respiratory protective device.

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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.

Butvl 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

· Eye/face protection



Tightly sealed goggles

· Body protection:



Protective work clothing

## **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 96 °C · Flammability Not applicable.

· Lower and upper explosion limit

· Lower: Not determined. Not determined. · Upper:

Flash point: Decomposition temperature: +80 °C (SADT) 4.3

· pH

Viscosity:

Kinematic viscosity Not determined. · Dynamic: Not determined.

Solubility

Undetermined. · water: · Partition coefficient n-octanol/water (log value) not determined · Vapour pressure at 25 °C: 50.8 hPa

Density and/or relative density

· Density at 25 °C: 0.93 g/cm3 Relative density Not determined. Not determined. · Vapour density

· 9.2 Other information

Appearance:

Fluid · Important information on protection of health and environment,

and on safety.

Ignition temperature: Not determined.

Explosive properties: Product does not present an explosion hazard.

· Change in condition

 Evaporation rate Not determined.

· Information with regard to physical hazard classes

· Explosives Void Flammable gases Void · Aerosols Void · Oxidising gases Void Void

Gases under pressure

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Flammable liquid and vapour.		
Void		
Substances and mixtures, which emit flammable gases in		
Void		
Void		
Void		
Heating may cause a fire.		
Void		
Void		
12.2 - 12.5 %		

# **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
10.4 Conditions to avoid

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

· 10.5 Incompatible materials:

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

heavy-metal compounds and amines).

· 10.6 Hazardous decomposition

products:

Hydrocarbons, 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

Harmful if swallowed.

Toxic in contact with skin.

Fatal 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
 STOT-single exposure
 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.
 Based on available data, the classification criteria are not met.
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## · 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

EC50 / 72h 2.1 mg/l /(70%) (selenastrum capricornutum)
LC50 / 96h 42.3 mg/l /(70%) (pimephales promelas)
EC50 24.3 mg/l /(70%) (activa sludge)
EC50 / 48h 20 mg/l /(70%) (daphnia magna)

## 12.2 Persistence and degradability

· 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: This substance does not meet the PBT/vPvB criteria of UK REACH, Annex XIII.
 vPvB: This substance does not meet the PBT/vPvB criteria of UK REACH, Annex XIII.

· 12.6 Endocrine disrupting properties

· 12.7 Other adverse effects

• Remark: Toxic for fish • Additional ecological information:

• General notes: Toxic for aquatic organisms

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

The product does not contain substances with endocrine disrupting properties.

Also poisonous for fish and plankton in water bodies.

Water hazard class 3 (German Regulation) (Assessment by list): 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 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 UN3109

· 14.2 UN proper shipping name

ADR
UN3109 ORGANIC PEROXIDE TYPE F, LIQUID (tert-BUTYL HYDROPEROXIDE), ENVIRONMENTALLY HAZARDOUS

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

MARINE POLLUTANT

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· IATA	ORGANIC PEROXIDE TYPE F, LIQUID (tert-BUTYL HYDROPEROXIDE)			
· 14.3 Transport hazard class(es)				
· ADR				
· Class · Label	5.2 (P1) Organic peroxides. 5.2+8			
· IMDG				
Class	5.2 Organic peroxides.			
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:	Product contains environmentally hazardous substances: tert-BUTYL HYDROPEROXIDE			
· Marine pollutant:	Symbol (fish and tree)			
· Special marking (ADR):	Sýmbol (fish and tree)			
14.6 Special precautions for user	Warning: Organic peroxides.			
<ul> <li>Hazard identification number (Kemler code):</li> <li>Stowage Category</li> </ul>	539 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 hulk according to IMO instrument	5 5 7 5 5 5 7 7 12 15 15 15 15 15 15 15 15 15 15 15 15 15			
· 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			
T	Not permitted as Excepted Quantity			
Transport category Tunnel restriction code	2 D			
· RID / GGVSEB:	like ADR			

125 ml

Code: E0

Not permitted as Excepted Quantity

# **SECTION 15: Regulatory information**

 $\cdot\,\textbf{15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture}$ 

Poisons Act

· IMDG

· Regulated explosives precursors

None of the ingredients is listed.

Limited quantities (LQ)

Excepted quantities (EQ)

· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

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Reportable poisons

None of the ingredients is listed.

Directive 2012/18/EU

· Named dangerous substances

- ANNEX I Substance is not listed. · Seveso category H2 ACUTE TOXIC

P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

E2 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

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.

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.

National regulations:

Other regulations, limitations and prohibitive regulations

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

# **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.

 Department issuing SDS: Environment protection / Security of labour

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

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International · Abbreviations and acronyms:

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) DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH) LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Flam. Liq. 3: Flammable liquids – Category 3 Org. Perox. 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

Muta. 2: Germ cell mutagenicity – Category 2 Carc. 2: Carcinogenicity – Category 2

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

\* Data compared to the previous version altered.