

Printing date 04.04.2024 Version: 11 (replaces version 10) Revision: 14.02.2023

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

· 1.1 Product identifier

· Trade name: PEROXAN APV

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

· Hazard pictograms

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



· Signal word Danger

Hazard-determining

components of labelling:

tert-pentyl peroxypivalate

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

Hazard statements
 H226 Flammable liquid and vapour.
 H242 Heating may cause a fire.
 H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
H304 May be fatal if swallowed and enters airways.

H304 May be fatal if swallowed and enters alrways.

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.

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 packaging.

P243 Take action to prevent static discharges.

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].

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up. P410 Protect from sunlight.

P411+P235 Store at temperatures not exceeding +10°C. Keep cool.

P420 Store separately.

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

regulations.

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· 2.3 Other hazards · Results of PBT and vPvB assessment

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

· PBT:

Dangerous components:		
CAS: 29240-17-3	tert-pentyl peroxypivalate	70-80%
EINECS: 249-530-6	Org. Perox. C, H242; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens.	
Reg-No.: 01-2120763801-54	18, 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	1
· 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. After swallowing: If symptoms persist consult doctor.

· 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.

· 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: 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

Keep away from ignition sources.

After exceeding the emergency temperature must be diluted with a suitable desentisation agent to < 10 %.

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 section 13.

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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.

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). The product must be preserved, stored and transported continously cool.

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 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.

Protect from heat and direct sunlight.

Protect from contamination.

· Recommended storage temperature (To maintain quality):

max.: -10 °C

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

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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.

29240-17-3 tert-pentyl peroxypivalate

Dermal	DNEL Longterm System	0.75 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	2.64 mg/m3 (Worker)

· PNECs

29240-17-3 tert-pentyl peroxypivalate

PNEC Marinewater sed | 0.0062 mg/kg sed dw (-) **PNEC Freshwater** 0.0052 mg/l (AF 10) PNEC Freshwater sed | 0.062 mg/kg sed dw (-) PNEC Soil 0.0093 mg/kg soil dw (-) PNEC STP 3 mg/l (AF 10) **PNEC Marinewater** 0.00052 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. Do not inhale gases / fumes / aerosols. Avoid close or long term contact with the 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

· 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

· Body protection:



Protective work clothing

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SECTION 9: Physical and chemical properties

· 9.1	Information	on bas	ic phys	ical and	chemica	I properties
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· General Information

· Colour: Colourless · Odour: Characteristic Odour threshold: Not determined.

· Melting point/freezing point: Not applicable. Boiling point or initial boiling point and boiling range Not applicable. Not applicable. Flammability

Lower and upper explosion limit

· Lower: Not determined. · Upper: Not determined. > SADT · Flash point: +25 °C (SADT) Decomposition temperature: · 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 at 20 °C: 0.86 g/cm³ Relative density Not determined. · Vapour density Not determined.

· 9.2 Other information No further relevant information available.

· Appearance:

· Form: Fluid · Important information on protection of health and environment,

and on safety.

Ignition temperature: Product is not selfigniting.

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

mixtures are possible.

· Change in condition

Evaporation rate Not determined.

· 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 6.3 - 6.5 %

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 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

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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 avoi

· 10.4 Conditions to avoid · 10.5 Incompatible materials:

40.011

· 10.6 Hazardous decomposition products:

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).

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:

29240-17-3 tert-pentyl peroxypivalate

Oral LD50 4,270 mg/kg (rattus) Dermal LD50 >2,000 mg/kg (rabbit)

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

Oral LD50 >5,000 mg/kg (rattus)

· Skin corrosion/irritation Causes skin 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
Carcinogenicity
Reproductive toxicity
STOT-single exposure
STOT-repeated exposure

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

· **Aspiration hazard** May be fatal if swallowed and enters airways.

11.2 Information on other hazards

· Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

29240-17-3 tert-pentyl peroxypivalate

LC50 / 96h | 100 mg/l (fish)

EC50 / 48h | 56.4 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:

29240-17-3 tert-pentyl peroxypivalate

Degradation (Evidence for inherent biodegradability.) (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]

29240-17-3 tert-pentyl peroxypivalate

3,3 (30°C)

12.4 Mobility in soilNo 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.

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(Contd. of page 6) · vPvB: The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH, annex XIII.

· 12.6 Endocrine disrupting

The product does not contain substances with endocrine disrupting properties.

properties 12.7 Other adverse effects

No further relevant information available.

· Additional ecological information:

General notes: 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

· 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	UN3113
· 14.2 UN proper shipping name · ADR	UN3113 ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED (tert-AMYL PEROXYPIVALATE), ENVIRONMENTALLY
· IMDG	HAZARDOUS ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED (tert-AMYL PEROXYPIVALATE), MARINE POLLUTANT

· 14.3 Transport hazard class(es)

· ADR





Class 5.2 (P2) Organic peroxides. · Label 5.2

IMDG





· Class · Label	5.2 Organic peroxides.5.2		
·IATA			
· Class	X		
· Label	X		
. 14 4 Packing group			

4.4 Packing group

· ADR, IMDG

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

PEROXYPIVALATE · 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): D

· Stowage Category · Stowage Code SW1 Protected from sources of heat.

SW3 Shall be transported under temperature control.

SG35 Stow "separated from" SGG1-acids · Segregation Code SG36 Stow "separated from" SGG18-alkalis.

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· 14.7 Maritime transport in bulk according to IMO instruments Not applicable · Transport/Additional information: · Limited quantities (LQ) 0 Excepted quantities (EQ) Code: E0 Not permitted as Excepted Quantity Transport category · Tunnel restriction code D · RID / GGVSEB: no admission · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) Code: E0 Not permitted as Excepted Quantity ·IATA

no admission

+10 °C +15 °C

· Emergency temperature:

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Poisons Act

· Remarks:

· Control temperature:

· Regulated explosives precursors

None of the ingredients is listed.

Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

- · Directive 2012/18/EU
- · Qualifying quantity (tonnes) for

the application of lower-tier

requirements 50

Qualifying quantity (tonnes) for

the application of upper-tier

requirements 200

- 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
- 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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· Relevant phrases H226 Flammable liquid and vapour.

H242 Heating may cause a fire.

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

Tel: +49 2871 9902-0 Contact: 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)

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 (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. C: Organic peroxides – Type C/D Skin Irrit. 2: Skin corrosion/irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B 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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