

Printing date 03.04.2024 Version: 9 (replaces version 8) Revision: 11.10.2023

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

· 1.1 Product identifier

PEROXAN PB M-20 · 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 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.

Acute Tox. 3 H331 Toxic if inhaled Skin Irrit. 2 H315 Causes skin irritation

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

H400 Very toxic to aquatic life. Aquatic Acute 1

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 CLP regulation.





· Signal word Danger

· Hazard-determining

components of labelling:

tert-butyl perbenzoate

pentane-2,4-dione

· Hazard statements H226 Flammable liquid and vapour.

H242 Heating may cause a fire. H331 Toxic if inhaled.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H410 Very toxic to aquatic life with long lasting effects.

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

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.

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

water [or shower].

P403+P235 Store in a well-ventilated place. Keep cool. P410 Protect from sunlight. P411 Store at temperatures not exceeding +30°C.

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

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Determination of endocrinedisrupting properties

The product does not contain substances with endocrine disrupting properties

SECTION 3: Composition/information on ingredients

· 3 2 Mixtures

· Description: Mixture: consisting of the following components.

· Dangerous components:		
CAS: 614-45-9	tert-butyl perbenzoate	70-80%
EINECS: 210-382-2 Reg-No.: 01-2119513317-46	Org. Perox. C, H242; Aquatic Acute 1, H400; Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Chronic 3, H412	
CAS: 123-54-6	pentane-2,4-dione	10-25%
EINECS: 204-634-0	Flam. Liq. 3, H226; Acute Tox. 3, H311; Acute Tox. 3, H331; Acute Tox. 4, H302	1
Index number: 606-029-00-0		
Reg-No.: 01-2119458968-15		

· 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: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48

hours after the accident.

Take care of personal protection for the first aider.

· After inhalation: 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.

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

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.

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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 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) 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.

Store under lock and key and with access restricted to technical experts or their assistants only.

Storage in a collecting room is required.

· Recommended storage temperature (To maintain quality):

Storage class:

0 +30 °C 5.2

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· 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.

•	υ	N	ᆮ	LS

614-45-9 tert-butyl perbenzoate

Dermal DNEL Longterm System 17,5 mg/kg bw/day (Worker) Inhalative DNEL Longterm System 24,7 mg/m3 (Worker)

123-54-6 pentane-2,4-dione

Dermal DNEL Longterm System 12 mg/kg bw/day (Worker)
Inhalative DNEL Longterm System 84 mg/m3 (Worker)

· PNECs

614-45-9 tert-butyl perbenzoate

PNEC Marinewater sed 0,028 mg/kg sed dw PNEC Freshwater 0,01 mg/l (AF 10)
PNEC Freshwater sed PNEC Soil 0,049 mg/kg seil dw PNEC STP 0,6 mg/l (AF 10)
PNEC Marinewater 0,00101 mg/l (AF 100)

123-54-6 pentane-2,4-dione

PNEC Marinewater sed 0,191 mg/kg sed dw PNEC Freshwater 0,2 mg/l (AF 50)
PNEC Freshwater sed 1,909 mg/kg sed dw PNEC Soil 0,193 mg/kg soil dw (-)
PNEC STP 1,32 mg/l (AF 10)
PNEC Marinewater 0,02 mg/l (AF 500)

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.

Use suitable respiratory device when it exceed ex

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

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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

SECTION 9: Physical and chemical properties

9.1 Information on	basic physical a	ind chemical 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. · Flammability Not applicable.

Lower and upper explosion limit

· Lower: Not determined. Not determined. · Upper: 48 °C · Flash point:

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

· Viscosity:

· Kinematic viscosity Not determined.

Not determined. · Dynamic: · Solubility

· water:

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

· Vapour pressure: Density and/or relative density

· Density at 20 °C: 1,03 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: Risk of explosion by shock, friction, fire or other sources of ignition.

Change in condition

· Evaporation rate Not determined.

· Information with regard to physical hazard classes

· Explosives Flammable gases Void Void Aerosols · 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

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· Other safety characteristics

• **Active oxygen** 6,34 - 6,59 %

SECTION 10: Stability and reactivity

· 10.1 Reactivity

· 10.2 Chemical stability

No further relevant information available.

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

Additional information:

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.

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:

LD/1	OUU Values relevant for classifica	
614-4	-9 tert-hutyl nerhenzoate	

orr to o tort buty, porbonizouto			
Oral	LD50	4.838 mg/kg (rattus)	
Dermal	LD50	3.817 mg/kg (rattus)	
Inhalative	LC100 4h	4,9 mg/l (rattus)	
	LC0 / 4h	1,01 mg/l (rattus)	

123-54-6 pentane-2,4-dione

Oral	LD50	575 mg/kg (rattus)
Dermal	LD50	790 mg/kg (rattus)
Inhalative	LC50 / 4h	5,1 mg/l (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
Aspiration hazard

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:

123-54-6 pentane-2,4-dione

LC50 / 96h | 72 mg/l (oncorhynchus mykiss)

EC50 / 48h 75 mg/l (daphnia)

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· 12.2 Persistence and degradability

· Degree of elimination:

· Classification:

614-45-9 tert-butyl perbenzoate

Degradation (Readily biodegradable) (OECD 301 D)

123-54-6 pentane-2,4-dione

Degradation (Readily biodegradable) (OECD 301 C)

12.3 Bioaccumulative potential

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

614-45-9 tert-butyl perbenzoate 123-54-6 pentane-2,4-dione 3 (25°C) 0,68 (20°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 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

propertiesThe product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects No further relevant information available.

· Remark: Very toxic for fish

· Additional ecological information:

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

Very toxic for aquatic organisms

Water hazard class 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

 \cdot 14.1 UN number or ID number

· ADR, IMDG, IATA UN3103

· 14.2 UN proper shipping name

· **ADR** UN3103 ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL

PEROXYBENZOATE), ENVIRONMENTALLY HAZARDOUS ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL

PEROXYBENZOATE), MARINE POLLUTANT

• IATA

PEROXYBENZOATE), MARINE POLLUTANT

ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL

PEROXYBENZOATE)

· 14.3 Transport hazard class(es)

· ADR

· IMDG



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

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·IMDG





Class 5.2 Organic peroxides.

Label 5.2

· IATA



Class 5.2 Organic peroxides.

· Label 5

· 14.4 Packing group

· Special marking (ADR):

· ADR, IMDG, IATA Void

• 14.5 Environmental hazards: Product contains environmentally hazardous substances: tert-BUTYL

PEROXYBENZOATE

· Marine pollutant: Yes

Symbol (fish and tree) Symbol (fish and tree)

• 14.6 Special precautions for user Warning: Organic peroxides.

· Hazard identification number (Kemler code): - Stowage Category

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

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

· Transport/Additional information:

· ADR

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

Not permitted as Excepted Quantity

Transport category

Transport category 1
Tunnel restriction code D

· 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 H2 ACUTE TOXIC

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 requirements 200 t

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 II

None of the ingredients is listed

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· 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.

· Department issuing SDS: Environment protection / Security of labour

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

· Version number of previous

version:

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 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) 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

Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4 Skin Irrit. 2: Skin corrosion/irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

·* Data compared to the previous version altered.

MT -