

1 Identification of the substance/preparation and of the company/undertaking

· **Product details**

PEROXAN BU-M1

· **Trade name:**
· **Application of the substance / the preparation**

Reaction initiator
For industrial use

· **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:
* Kathrin Bohland (Sales) e-mail: k.bohland@pergan.com
* Christoph Wilting (Environment protection / Security of labour) e-mail: c.wilting@pergan.com

· **Information in case of emergency:**

- Tel: +49 2871 9902-0

2 Hazards identification

· **Hazard description:**



Xn Harmful
O Oxidising
N Dangerous for the environment

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 7 May cause fire.

R 36/38 Irritating to eyes and skin.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 65 Harmful: may cause lung damage if swallowed.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

* 3 Composition/information on ingredients

· **Chemical characterization**

· **Dangerous components:**

CAS: 3006-82-4 EINECS: 221-110-7 Reg.nr.: 05-2116407553-51-0000	tert-butyl 2-ethylperoxyhexanoate	Xi, E, O; R 2-7-36	40-50%
CAS: 3457-61-2 EINECS: 222-389-8 Index number: 617-007-00-5 Reg.nr.: 05-2116407560-56-0000	tert-butyl alpha,alpha-dimethylbenzyl peroxide	Xi, O, N; R 7-38-51/53	30-40%
CAS: 31807-55-3 EINECS: 250-816-8 Reg.nr.: 05-2117191713-40-0000	isododecane	Xn; R 10-65	10-20%

· **Additional information:**

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

4 First aid measures

· **General information:**

Take care of personal protection for the first aider.

· **After inhalation:**

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

Take affected persons into fresh air and keep quiet.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Immediately remove contaminated clothing.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

If symptoms persist consult doctor.

5 Fire-fighting measures

· **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

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- **Special hazards caused by the substance, its products of combustion or resulting gases:** Under certain fire conditions, traces of other toxic gases cannot be excluded. Hydrocarbons, carbon dioxide and -monoxid.
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **Additional information:** Cool endangered receptacles with water spray. Self-protection first!

6 Accidental release measures

- **Person-related safety precautions:** Keep away from ignition sources. After exceeding the emergency temperature must be diluted with a suitable desensitisation agent to < 10 %. In case of further temperature should be cooled with waterspray from a safe distance. Take precautionary measures against static discharges. Wear breathing apparatus with filter A during decomposition of materials. Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:** Inform respective authorities in case of seepage into water course or sewage system.
 Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:** Dispose contaminated material as waste according to item 13. Ensure adequate ventilation. Large quantities should be diluted with suitable desensitisation agent to a concentration below 10 % before disposal. Soak up with absorbant material (e. g. Vermiculit) and dispose of in accordance with government regulations.
- **Additional information:** In case of large spillage the environmental authority should be informed.

7 Handling and storage

- **Handling:** Pay attention to the special requirements of your local authorities for handling with dangerous goods.
- **Information for safe handling:** Keep receptacles tightly sealed. Keep away from heat and direct sunlight. 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. 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 continuously cool. 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. 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.
- **Storage:** Pay attention to the special requirements of your local authorities for storing dangerous goods.




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- **Requirements to be met by 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.: +15°C
- **Storage class:** 5.2 "Organic Peroxides" (VCI Guideline)

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **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.
- **Additional information:** The lists valid during the making were used as basis.
- **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:** Not necessary if room is well-ventilated.
Use suitable respiratory protective device in case of insufficient ventilation.
 Filter A2
- **Protection of hands:** 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 protection:**  Tightly sealed goggles
- **Body protection:** Protective work clothing

9 Physical and chemical properties

- | | |
|----------------------------|----------------|
| General Information | |
| · Form: | Fluid |
| · Colour: | Colourless |
| · Odour: | Characteristic |

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· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.
· Flash point:	61°C
· Decomposition temperature:	> +40°C (SADT)
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Density:	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Segregation coefficient (n-octanol/water):	not determined
· Active oxygen	5,8 - 6,2 %

10 Stability and reactivity

- **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.
- **Materials to be avoided:** Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
- **Dangerous reactions** Self-accelerating decomposition at SADT.
- **Dangerous 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.

11 Toxicological information

· **Acute toxicity:**

· LD/LC50 values relevant for classification:		
3006-82-4 tert-butyl 2-ethylperoxyhexanoate		
Oral	LD50	>10000 mg/kg (rattus)
Dermal	LD50	16818 mg/kg (rattus)
Inhalative	LC50 / 4h	>200 mg/l (rattus)
3457-61-2 tert-butyl alpha,alpha-dimethylbenzyl peroxide		
Oral	LD50	4700 mg/kg (rattus)
Dermal	LD50	>2000 mg/kg (rattus)
Inhalative	LC50	>1.2 mg/l (rattus)
31807-55-3 isododecane		
Oral	LD50	>2000 mg/kg (rattus)
Inhalative	LC50 / 1h	>21.3 mg/l (rattus)
	LC50 / 4h	>1850 mg/l (rattus)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:** The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant

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12 Ecological information

· **Ecotoxicological effects:**

· **Aquatic toxicity:**

3006-82-4 tert-butyl 2-ethylperoxyhexanoate

EC50 64 mg/l (activa sludge)

31807-55-3 isododecane

LC0 >100 mg/l (bacteria)

LC0 / 48h >100 mg/l (piscis)

LC0 / 96h 1000 mg/l (piscis)

· **Remark:**

Toxic for fish

· **General notes:**

Also poisonous for fish and plankton in water bodies.

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.

13 Disposal considerations

· **Product:**

· **Recommendation**

After diluting with a suitable desensitisation 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.

14 Transport information

· **Land transport ADR/RID (cross-border)**



· **ADR/RID class:** 5.2 (P2) Organic peroxides.

· **Danger code (Kemler):** -

· **UN-Number:** 3113

· **Packaging group:** -

· **Hazard label:** 5.2

· **Description of goods:** 3113 ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED (tert-BUTYLPEROXY-2-ETHYLHEXANOATE, tert-BUTYL CUMYL PEROXIDE)

· **RID / GGVSE:** no admission

· **Maritime transport IMDG:**



· **IMDG Class:** 5.2

· **UN Number:** 3113

· **Label:** 5.2

· **Packaging group:** -

· **Marine pollutant:** No

· **Proper shipping name:** ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED (tert-BUTYLPEROXY-2-ETHYLHEXANOATE, tert-BUTYL CUMYL PEROXIDE)

· **Air transport ICAO-TI and IATA-DGR:**

· **Remarks:** no admission

· **Transport/Additional information:**

· **Control temperature:** +20°C

· **Emergency temperature:** +25°C

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* 15 Regulatory information

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· **Code letter and hazard designation of product:**

   Xn Harmful
O Oxidising
N Dangerous for the environment

· **Hazard-determining components of labelling:**

tert-butyl 2-ethylperoxyhexanoate
tert-butyl alpha,alpha-dimethylbenzyl peroxide
isododecane

· **Risk phrases:**

7 May cause fire.
36/38 Irritating to eyes and skin.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65 Harmful: may cause lung damage if swallowed.

· **Safety phrases:**

7/47 Keep container tightly closed and at a temperature not exceeding +20 °C.
14 Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy metal compounds and amines).
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
50 Do not mix with peroxide-accelerators or reducing agents.
60 This material and its container must be disposed of as hazardous waste.
61 Avoid release to the environment. Refer to special instructions/safety data sheets.
62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**

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

· **Substance of High Concern = SVHC**

None of the ingredients is listed.

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.

· **Relevant R-phrases**

10 Flammable.
2 Risk of explosion by shock, friction, fire or other sources of ignition.
36 Irritating to eyes.
38 Irritating to skin.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65 Harmful: may cause lung damage if swallowed.
7 May cause fire.

· **Department issuing MSDS:**

Environment protection / Security of labour

· **Contact:**

Tel: +49 2871 9902-0

E-mail: mail@pergan.com

· *** Data compared to the previous version altered.**