

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

· Product details

### PEROXAN BP-40 LS

· 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  
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· 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

· 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 22 Harmful if swallowed.  
R 36 Irritating to eyes.  
R 43 May cause sensitisation by skin contact.

· 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: 94-36-0 EINECS: 202-327-6 EU Number: 617-008-00-0	dibenzoyl peroxide	Xi, E; R 2-36-43	30-40%
CAS: 107-21-1 EINECS: 203-473-3 EU Number: 603-027-00-1	ethanediol	Xn; R 22	25-30%
CAS: 5444-75-7 EINECS: 226-641-8	2-ethylhexyl benzoate	R 53	10-20%
CAS: 9038-95-3 Polymer	oxirane, methyl-, polymer with oxirane, monobutyl ether	Xn, Xi; R 22-36/38	1.0-2.5%

· Additional information:

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

## 4 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.

· After inhalation:

Take care of personal protection for the first aider.  
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. If symptoms persist, consult a doctor.

· After swallowing:

Call for a doctor immediately.


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**5 Fire-fighting measures**

- **Suitable extinguishing agents:** CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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, carbondioxide 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. 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.
- **Measures for environmental protection:**  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. 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.

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- **Storage:** Pay attention to the special requirements of your local authorities 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 in a cool place.
- **Recommended storage temperature (To maintain quality):** +5 ... +25°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.

<b>Ingredients with limit values that require monitoring at the workplace:</b>	
<b>94-36-0 dibenzoyl peroxide</b>	
WEL (Great Britain)	Long-term value: 5 mg/m <sup>3</sup>
<b>107-21-1 ethanediol</b>	
WEL (Great Britain)	Short-term value: 104** mg/m <sup>3</sup> , 40** ppm Long-term value: 10* 52** mg/m <sup>3</sup> , 20** ppm Sk *particulate **vapour
IOELV (EU)	Short-term value: 104 mg/m <sup>3</sup> , 40 ppm Long-term value: 52 mg/m <sup>3</sup> , 20 ppm

- **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:** 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 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

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· **Body protection:** Protective work clothing

**\* 9 Physical and chemical properties**

· <b>General Information</b>	
· <b>Form:</b>	Suspension
· <b>Colour:</b>	White
· <b>Odour:</b>	Characteristic
· <b>Change in condition</b>	
· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	Undetermined.
· <b>Flash point:</b>	Not determined.
· <b>Decomposition temperature:</b>	> +60°C (SADT)
· <b>Self-igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· <b>Density at 20°C:</b>	ca. 1.14 g/cm <sup>3</sup>
· <b>Solubility in / Miscibility with water:</b>	
	Not miscible or difficult to mix.
· <b>Segregation coefficient (n-octanol/water):</b> not determined	
· <b>Viscosity:</b>	
· <b>Dynamic at 20°C:</b>	500 - 1500 mPas
· <b>Active oxygen</b>	2,6 - 2,7 %

**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).  
Self-accelerating decomposition at SADT.
- **Dangerous reactions**
- **Dangerous decomposition products:** Hydrocarbons, carbon dioxide 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:**

**94-36-0 dibenzoyl peroxide**

Oral	LD50	>5000 mg/kg (rattus)
Inhalative	LC50 / 4h	>24.3 mg/l (rattus)

**107-21-1 ethanediol**

Oral	LD50	4700 mg/kg (rattus)
	LDLo	786 mg/kg (homo)

**5444-75-7 2-ethylhexyl benzoate**

Oral	LD50	>2000 mg/kg (rattus)
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· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** Low irritant effect
- **Sensitization:** Sensitization possible through skin contact.

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· **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:

· **Sensitisation**

Harmful  
Irritant  
May cause sensitisation by skin contact.

**\* 12 Ecological information**

· **Information about elimination (persistence and degradability):**

**107-21-1 ethanediol**

BSB des ThSB 38 % (-)

· **Ecotoxicological effects:**

· **Acquatic toxicity:**

**94-36-0 dibenzoyl peroxide**

EC50 35 mg/l (bacteria)

EC50 / 48h 2.91 mg/l (daphnia)

LC50 / 96h 2.0 mg/l (poecilia reticulata)

**107-21-1 ethanediol**

EC 50 / 16h >10000 mg/l (pseudomonas putida)

EC5 / 8d 2000 mg/l (microcystis aeruginosa)

EC50 / 24h 74000 mg/l (daphnia magna)

IC5 / 7d >10000 mg/l (scenedesmus quadricauda)

LC50 / 48h >10000 mg/l (leuciscus idus)

LC50 / 96h >18500 mg/l (oncorhynchus mykiss)

· **Additional ecological information:**

**107-21-1 ethanediol**

BSB 5 810 mg O<sub>2</sub> /g (-)

CSB 1290 mg O<sub>2</sub> /g (-)

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**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 (P1) Organic peroxides.

· **Danger code (Kemler):**

-

· **UN-Number:**

3107

· **Packaging group:**

-

· **Hazard label:**

5.2



· **Description of goods:**

3107 ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE)



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· RID / GGVSE:	like ADR
· Maritime transport IMDG:	
	
· IMDG Class:	5.2
· UN Number:	3107
· Label	5.2
· Packaging group:	-
· Marine pollutant:	No
· Proper shipping name:	ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE)
· Air transport ICAO-TI and IATA-DGR:	
	
· ICAO/IATA Class:	5.2
· UN/ID Number:	3107
· Label	5.2
· Packaging group:	-
· Proper shipping name:	ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE)

**\* 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
· Hazard-determining components of labelling:	dibenzoyl peroxide ethanediol
· Risk phrases:	7 May cause fire. 22 Harmful if swallowed. 36 Irritating to eyes. 43 May cause sensitisation by skin contact.
· Safety phrases:	3/7 Keep container tightly closed in a cool place. 14 Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy metal compounds and amines). 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 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.
· National regulations:	
· Other regulations, limitations and prohibitive regulations	
· Please note:	Take care of the respective local regulations.

**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	2 Risk of explosion by shock, friction, fire or other sources of ignition. 22 Harmful if swallowed. 36 Irritating to eyes. 36/38 Irritating to eyes and skin. 43 May cause sensitisation by skin contact. 53 May cause long-term adverse effects in the aquatic environment.
· 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.	