

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

- **Product identifier**

**PEROXAN ME-50 L**
- **Trade name:**
- **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
- **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  
Competent person:  
\* (Sales Manager Germany) Mr. Ansgar Pappenheim e-mail: a.pappenheim@pergan.com  
\* (Export Sales Manager) Mr. Dr. Thomas Philipps e-mail: dr.philipps@pergan.com  
\* (Environment protection / Security of labour) Mr. Christoph Wiltung e-mail: c.wiltung@pergan.com
- **Emergency telephone number:** - Tel: +49 2871 9902-0

## 2 Hazards identification



- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

C; Corrosive  
R34: Causes burns.  
Xn; Harmful  
R22: Harmful if swallowed.  
O; Oxidising  
R7: May cause fire.
- **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.
- **Classification system:**

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

  C Corrosive  
O Oxidising
- **Hazard-determining components of labelling:**

2-Butanone, peroxide
- **Risk phrases:**

7 May cause fire.  
22 Harmful if swallowed.  
34 Causes burns.
- **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.  
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
50 Do not mix with peroxide-accelerators or reducing agents.  
60 This material and its container must be disposed of as hazardous waste.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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· vPvB: Not applicable.

**\* 3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

· **Dangerous components:**

CAS: 1338-23-4 EINECS: 215-661-2	2-Butanone, peroxide C R34; Xn R22; E R2; O R7 Org. Perox. B, H241; Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H332	30-40%
CAS: 131-11-3 EINECS: 205-011-6	dimethyl phthalate substance with a Community workplace exposure limit	30-40%
CAS: 7722-84-1 EINECS: 231-765-0 Index number: 008-003-00-9	hydrogen peroxide solution C R35; Xn R20/22; O R8 R5 Ox. Liq. 1, H271; Skin Corr. 1A, H314; Acute Tox. 4, H302; Acute Tox. 4, H332	1.0-2.5%
CAS: 78-93-3 EINECS: 201-159-0 Index number: 606-002-00-3	butanone Xi R36; F R11 R66-67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	1.0-2.5%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

**4 First aid measures**

· **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.



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. Then consult a doctor.

· **After swallowing:** Call for a doctor immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**5 Firefighting measures**

· **Extinguishing media**

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

· **Special hazards arising from the substance or mixture** Under certain fire conditions, traces of other toxic gases cannot be excluded.  
Hydrocarbons, carbondioxide and -monoxid.

· **Advice for firefighters**

Do not inhale explosion gases or combustion gases.

· **Protective equipment:**

Cool endangered receptacles with water spray.

· **Additional information**

Self-protection first!

**6 Accidental release measures**

· **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.

Take precautionary measures against static discharges.

Wear breathing apparatus with filter A during decomposition of materials.

Wear protective equipment. Keep unprotected persons away.

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· **Environmental precautions:**



Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Large quantities should be diluted with suitable desensitization agent to a concentration below 10 % before disposal.  
Soak up with absorbant material (e. g. Vermiculit) and dispose of in accordance with government regulations.

· **Reference to other sections**

In case of large spillage the environmental authority should be informed.

**7 Handling and storage**

· **Precautions for safe handling**

Keep receptacles tightly sealed.  
Store in cool, dry place in tightly closed receptacles.  
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).  
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.

· **Conditions for safe storage, including any incompatibilities**

· **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 under lock and key and out of the reach of children.  
Store in a cool place.

· **Recommended storage temperature (To maintain quality):**

0 .... +30 °C

· **Storage class:**

5.2 "Organic Peroxides" (VCI Guideline)

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· **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

· <b>Ingredients with limit values that require monitoring at the workplace:</b>	
<b>1338-23-4 2-Butanone, peroxide</b>	
WEL (Great Britain)	Short-term value: 1.5 mg/m <sup>3</sup> , 0.2 ppm
<b>131-11-3 dimethyl phthalate</b>	
WEL (Great Britain)	Short-term value: 10 mg/m <sup>3</sup> Long-term value: 5 mg/m <sup>3</sup>
<b>7722-84-1 hydrogen peroxide solution</b>	
WEL (Great Britain)	Short-term value: 2.8 mg/m <sup>3</sup> , 2 ppm Long-term value: 1.4 mg/m <sup>3</sup> , 1 ppm
<b>78-93-3 butanone</b>	
WEL (Great Britain)	Short-term value: 899 mg/m <sup>3</sup> , 300 ppm Long-term value: 600 mg/m <sup>3</sup> , 200 ppm Sk
IOELV (EU)	Short-term value: 900 mg/m <sup>3</sup> , 300 ppm Long-term value: 600 mg/m <sup>3</sup> , 200 ppm

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **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 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

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## 9 Physical and chemical properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
· Form:	Fluid
· Colour:	Colourless
· Odour:	Characteristic
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.
· Flash point:	> SADT
· Decomposition temperature:	> +60 °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 at 20 °C:	1.12 - 1.15 g/cm <sup>3</sup>
· Solubility in / Miscibility with	
· water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water): not determined	
· Viscosity:	
· Dynamic at 20 °C:	9 - 15 mPas
· Other information	
No further relevant information available.	
· Active oxygen	9,0 - 9,3 %

## 10 Stability and reactivity

· Reactivity	
· 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 caused by 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.
· Possibility of hazardous reactions	Self-accelerating decomposition at SADT.
· Conditions to avoid	No further relevant information available.
· Incompatible materials:	Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
· Hazardous decomposition products:	Hydrocarbons, carbon dioxide and -monoxide. 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 plan in place.

## \* 11 Toxicological information

· Information on toxicological effects		
· Acute toxicity:		
· LD/LC50 values relevant for classification:		
<b>1338-23-4 2-Butanone, peroxide</b>		
Oral	LD50	1017 mg/kg (rattus)
Dermal	LD50	4000 mg/kg (rattus)
Inhalative	LC50 / 4h	17 mg/l (rattus)
<b>7722-84-1 hydrogen peroxide solution</b>		
Oral	LD50	841 mg/kg (rattus)
Inhalative	LC50 / 4h	2000 ppm (rattus)
<b>78-93-3 butanone</b>		
Oral	LD50	>2600 mg/kg (rattus)

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Dermal	LD50	>8000 mg/kg (cuniculosus)
Inhalative	LC50 / 4h	20 mg/l (rattus)

- **Primary irritant effect:**
  - **on the skin:** Caustic effect on skin and mucous membranes.
  - **on the eye:** Strong caustic 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  
Corrosive  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**12 Ecological information**

· **Toxicity**

· **Aquatic toxicity:**

**1338-23-4 2-Butanone, peroxide**

EC50	48 mg/l (activa sludge)
LC50 / 96h	44.2 mg/l (poecilia reticulata)

**7722-84-1 hydrogen peroxide solution**

EC50 / 72-96h	3.7-160 mg/l (alga)
LC50 / 48h	2.4 mg/l (daphnia)
LC50 / 96h	16.4 mg/l (pimephales promelas)
NOEL / 48h	1 mg/l (daphnia)

**78-93-3 butanone**

EC50 / 48h	5091 mg/l (daphnia magna)
IC5 / 7d	>4300 mg/l (scenedesmus quadricauda)
LC50 / 96h	3220 mg/l (pimephales promelas)

· **Persistence and degradability**

**78-93-3 butanone**

DOC Abnahme >70 % (-)

· **Behaviour in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
  - **General notes:** Must not reach sewage water or drainage ditch undiluted or unneutralized.  
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.
- **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **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.
- **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**

- **UN-Number**
- **ADR, IMDG, IATA** UN3105

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<ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· ADR</li> <li>· IMDG, IATA</li> </ul>	<p>3105 ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S)) ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S))</p>
<ul style="list-style-type: none"> <li>· Transport hazard class(es)</li> <li>· ADR</li> <li></li> <li>· Class</li> <li>· Label</li> </ul>	<p>5.2 (P1) Organic peroxides. 5.2</p>
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> <li></li> <li>· Class</li> <li>· Label</li> </ul>	<p>5.2 Organic peroxides. 5.2</p>
<ul style="list-style-type: none"> <li>· Packing group</li> <li>· ADR, IMDG, IATA</li> </ul>	<p>Void</p>
<ul style="list-style-type: none"> <li>· Environmental hazards:</li> <li>· Marine pollutant:</li> <li>· Danger code (Kemler):</li> </ul>	<p>No -</p>
<ul style="list-style-type: none"> <li>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</li> </ul>	<p>Not applicable.</p>
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> <li>· ADR</li> <li>· Limited quantities (LQ)</li> <li>· Transport category</li> <li>· Tunnel restriction code</li> <li>· RID / GGVSE:</li> </ul>	<p>125 ml 2 D like ADR</p>

**15 Regulatory information**

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations:
- Other regulations, limitations and prohibitive regulations
- Please note: Take care of the respective local regulations.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

**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 phrases
  - H225 Highly flammable liquid and vapour.
  - H241 Heating may cause a fire or explosion.
  - H271 May cause fire or explosion; strong oxidiser.
  - H302 Harmful if swallowed.
  - H314 Causes severe skin burns and eye damage.
  - H319 Causes serious eye irritation.
  - H332 Harmful if inhaled.
  - H336 May cause drowsiness or dizziness.
  - R11 Highly flammable.
  - R2 Risk of explosion by shock, friction, fire or other sources of ignition.
  - R20/22 Harmful by inhalation and if swallowed.
  - R22 Harmful if swallowed.
  - R34 Causes burns.
  - R35 Causes severe burns.
  - R36 Irritating to eyes.
  - R5 Heating may cause an explosion.
  - R66 Repeated exposure may cause skin dryness or cracking.

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R67 Vapours may cause drowsiness and dizziness.  
R7 May cause fire.  
R8 Contact with combustible material may cause fire.

· **Department issuing MSDS:**

· **Contact:**

Environment protection / Security of labour

Tel: +49 2871 9902-0

E-mail: mail@pergan.com

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