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Version: 2

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

## · Product details

- Trade name:
- 
- Application of the substance /
- 
- the preparation

**PEROXAN A-40 L**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

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· Information in case of  
emergency:

- Tel: +49 2871 9902-0

**2 Hazards identification**

## · Hazard description:

Xi Irritant  
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.

Has a narcotizing effect.

R 7 May cause fire.

R 36/38 Irritating to eyes and skin.

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: 37187-22-7 EINECS: 253-384-9 Reg.nr.: 05-2116407681-50-0000	2,4-Pentanedione, peroxide	Xi, O; R 7-36/38-43	30-40%
CAS: 123-42-2 EINECS: 204-626-7 Index number: 603-016-00-1 Reg.nr.: 05-2117814057-48-0000	4-hydroxy-4-methylpentan-2-one	Xi; R 36	25-30%

## · 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:

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, carbon dioxide and -monoxid.

## · Protective equipment:

Do not inhale explosion gases or combustion gases.

## · Additional information

Cool endangered receptacles with water spray.

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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.  
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:**



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

· **Measures for cleaning/collecting:**

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.

· **Additional information:**

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

**7 Handling and storage**

· **Handling:**

· **Information for safe handling:**

Pay attention to the special requirements of your local authorities for handling with dangerous goods.  
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.



Avoid open flames, sparks, direct sunlight and other sources of ignition.

Formation of flammable or explosive gas/air-mixtures is possible.  
Keep ignition sources away - Do not smoke.

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Pay attention to the special requirements of your local authorities for storing dangerous goods.  
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.

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- **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.

· **Ingredients with limit values that require monitoring at the workplace:**

**123-42-2 4-hydroxy-4-methylpentan-2-one**

WEL (Great Britain)	Short-term value: 362 mg/m <sup>3</sup> , 75 ppm Long-term value: 241 mg/m <sup>3</sup> , 50 ppm
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- **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.  
Do not inhale gases / fumes / aerosols.  
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

- **Body protection:** Protective work clothing

**9 Physical and chemical properties**

· **General Information**

- **Form:** Fluid
- **Colour:** Colourless
- **Odour:** Like ketone

- **Change in condition**
- **Melting point/Melting range:** Undetermined.

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· Boiling point/Boiling range:	Undetermined.
· Flash point:	80°C (ISO 2592)
· 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:	1.019-1.091 g/cm <sup>3</sup>
· Solubility in / Miscibility with · water:	Soluble.
· Segregation coefficient (n-octanol/water):	not determined
· Viscosity:	
· Dynamic at 20°C:	12-49 mPas
· Active oxygen	4,0 - 4,4 %

## 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 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.
- **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 -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

· **Acute toxicity:**

· <b>LD/LC50 values relevant for classification:</b>		
<b>37187-22-7 2,4-Pentanedione, peroxide</b>		
Oral	LD50	>2000 mg/kg (rattus)
Dermal	LD0	>2000 mg/kg (rattus)
<b>123-42-2 4-hydroxy-4-methylpentan-2-one</b>		
Oral	LD50	2520 mg/kg (rattus)
Dermal	LD50	13630 mg/kg (cuniculus)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Other information (about experimental toxicology):** 2,4-Pentanedione, peroxide = (2,4-Pentanedione, peroxide, ca. 35% / 4-hydroxy-4-methylpentan-2-one)
- **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:  
Irritant
- **Sensitisation** May cause sensitisation by skin contact.

## 12 Ecological information

· **Ecotoxicological effects:**

· <b>Aquatic toxicity:</b>		
<b>37187-22-7 2,4-Pentanedione, peroxide</b>		
EC50 / 48h		10.9 mg/l (daphnia)


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<b>123-42-2 4-hydroxy-4-methylpentan-2-one</b>	
EC / 16h	825 mg/l (pseudomonas putida)
EC50 / 24h	9000 mg/l (daphnia)
LC50 / 96h	420 mg/l (lepomis macrochirus)
· <b>Remark:</b>	2,4-Pentanedione, peroxide = (2,4-Pentanedione, peroxide, ca. 35% / 4-hydroxy-4-methylpentan-2-one)
· <b>General notes:</b>	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 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.

**14 Transport information**

· <b>Land transport ADR/RID (cross-border)</b>	
	
· <b>ADR/RID class:</b>	5.2 (P1) Organic peroxides.
· <b>UN-Number:</b>	3105
· <b>Packaging group:</b>	-
· <b>Hazard label:</b>	5.2
· <b>Description of goods:</b>	3105 ORGANIC PEROXIDE TYPE D, LIQUID (ACETYL ACETONE PEROXIDE)
· <b>RID / GGVSE:</b>	like ADR
· <b>Maritime transport IMDG:</b>	
	
· <b>IMDG Class:</b>	5.2
· <b>UN Number:</b>	3105
· <b>Label</b>	5.2
· <b>Packaging group:</b>	-
· <b>Marine pollutant:</b>	No
· <b>Proper shipping name:</b>	ORGANIC PEROXIDE TYPE D, LIQUID (ACETYL ACETONE PEROXIDE)
· <b>Air transport ICAO-TI and IATA-DGR:</b>	
	
· <b>ICAO/IATA Class:</b>	5.2
· <b>UN/ID Number:</b>	3105
· <b>Label</b>	5.2
· <b>Packaging group:</b>	-
· <b>Proper shipping name:</b>	ORGANIC PEROXIDE TYPE D, LIQUID (ACETYL ACETONE 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.

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



Xi Irritant  
O Oxidising

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

2,4-Pentanedione, peroxide

· **Risk phrases:**

7 May cause fire.  
36/38 Irritating to eyes and skin.  
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).  
23 Do not breathe gas/fumes/vapour/spray.  
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.

· **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**

36 Irritating to eyes.  
36/38 Irritating to eyes and skin.  
43 May cause sensitisation by skin contact.  
7 May cause fire.

· **Department issuing MSDS:**

Environment protection / Security of labour

· **Contact:**

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E-mail: mail@pergan.com

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