


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

- **1.1 Product identifier**
 - Trade name: **PEROXAN A-50 M3**
- **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:**
 - 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 / : Mr. Christoph Wilting, e-mail: c.wilting@pergan.com
Security of labour
- **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. D H242 Heating may cause a fire.
 - Acute Tox. 4 H302 Harmful if swallowed.
 - Acute Tox. 4 H312 Harmful in contact with skin.
 - Acute Tox. 3 H331 Toxic if inhaled.
 - Skin Corr. 1C H314 Causes severe skin burns and eye damage.
 - Eye Dam. 1 H318 Causes serious eye damage.
 - Skin Sens. 1 H317 May cause an allergic skin reaction.
 - Muta. 2 H341 Suspected of causing genetic defects.
 - Carc. 2 H351 Suspected of causing cancer.
 - Repr. 2 H361d Suspected of damaging the unborn child.
 - STOT SE 3 H335 May cause respiratory irritation.
 - Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.
- **2.2 Label elements**
 - **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
 - **Hazard pictograms**

GHS02 GHS05 GHS06 GHS08 GHS09
 - **Signal word**
Danger
 - **Hazard-determining components of labelling:**
tert-butyl hydroperoxide
4-hydroxy-4-methylpentan-2-one
2,4-Pentadione, peroxide
pentane-2,4-dione
 - **Hazard statements**
H226 Flammable liquid and vapour.
H242 Heating may cause a fire.
H302+H312 Harmful if swallowed or in contact with skin.
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.
 - **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234 Keep only in original packaging.

Safety data sheet
 according to 1907/2006/EC, Article 31

Printing date 29.06.2023

Version: 8 (replaces version 7)

Revision: 26.06.2023

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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.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P405	Store locked up.
P410	Protect from sunlight.
P411+P235	Store at temperatures not exceeding +25°C. Keep cool.
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.

SECTION 3: Composition/information on ingredients
3.2 Mixtures
Dangerous components:

CAS: 75-91-2 EINECS: 200-915-7 Reg-No.: 01-2119446670-40	tert-butyl hydroperoxide Flam. Liq. 3, H226; Org. Perox. F, H242; Acute Tox. 3, H311; Acute Tox. 2, H330; Muta. 2, H341; Carc. 2, H351; Skin Corr. 1C, H314; Eye Dam. 1, H318; Aquatic Chronic 2, H411; Acute Tox. 4, H302; Skin Sens. 1, H317 Specific concentration limits: Eye Dam. 1; H318: C ≥ 1 % Skin Sens. 1; H317: C ≥ 0,1 % STOT SE 3; H335: C ≥ 5 %	40-50%
CAS: 123-42-2 EINECS: 204-626-7 Index number: 603-016-00-1 Reg-No.: 01-2119473975-21	4-hydroxy-4-methylpentan-2-one Flam. Liq. 3, H226; Repr. 2, H361d; Eye Irrit. 2, H319; STOT SE 3, H335 Specific concentration limit: Eye Irrit. 2; H319: C ≥ 10 %	25-30%
CAS: 13784-51-5 EINECS: 237-438-9 Reg-No.: 01-2119965139-28	2,4-Pentadione, peroxide Alternative CAS number: 37187-22-7 Org. Perox. D, H242; Eye Irrit. 2, H319; Skin Sens. 1, H317	10-20%
CAS: 123-54-6 EINECS: 204-634-0 Index number: 606-029-00-0 Reg-No.: 01-2119458968-15	pentane-2,4-dione Flam. Liq. 3, H226; Acute Tox. 3, H311; Acute Tox. 3, H331; Acute Tox. 4, H302	0,1-2,5%
CAS: 7722-84-1 EINECS: 231-765-0 Index number: 008-003-00-9 Reg-No.: 01-2119485845-22	hydrogen peroxide solution Ox. Liq. 1, H271; Skin Corr. 1A, H314; Acute Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H335; Aquatic Chronic 3, H412 Specific concentration limits: Skin Corr. 1A; H314: C ≥ 70 % Skin Corr. 1B; H314: 50 % ≤ C < 70 % Skin Irrit. 2; H315: 35 % ≤ C < 50 % Eye Dam. 1; H318: C ≥ 8 % Eye Irrit. 2; H319: 5 % ≤ C < 8 % STOT SE 3; C ≥ 35 % Ox. Liq. 1; H271: C ≥ 70 % Ox. Liq. 2; H272: 50 % ≤ C < 70 %	0,1-2,5%

- **Additional information:** tert-butyl hydroperoxide 70%ig in water
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:** 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.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.



Take care of personal protection for the first aider.

- **After inhalation:** Supply fresh air or oxygen; call for doctor.

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- **After skin contact:** In case of unconsciousness place patient stably in side position for transportation. Take affected persons into fresh air and keep quiet. 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.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed** 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.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture** Under certain fire conditions, traces of other toxic gases cannot be excluded. Hydrocarbons, carbon dioxide 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** 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.
- **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 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.
- **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. 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). Avoid contact with skin and eyes.

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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.
Keep respiratory protective device available.
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:** Pay attention to the special requirements of your local authorities for storing dangerous goods.

· **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.
Store under lock and key and out of the reach of children.
Storage in a collecting room is required.

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

+5 +25 °C

· **Storage class:**

5.2

· **7.3 Specific end use(s)**

No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

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

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

OEL (Ireland)	Long-term value: 240 mg/m ³ , 50 ppm
WEL (Great Britain)	Short-term value: 362 mg/m ³ , 75 ppm Long-term value: 241 mg/m ³ , 50 ppm

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

OEL (Ireland)	Long-term value: 25 ppm
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7722-84-1 hydrogen peroxide solution

OEL (Ireland)	Short-term value: 3 mg/m ³ , 2 ppm Long-term value: 1,5 mg/m ³ , 1 ppm
WEL (Great Britain)	Short-term value: 2,8 mg/m ³ , 2 ppm Long-term value: 1,4 mg/m ³ , 1 ppm

· **DNELs**

75-91-2 tert-butyl hydroperoxide

Dermal	DNEL Longterm System	0,21 mg/kg bw/day (Worker)
Inhalative	DNEL Acute Systemic	85,2 mg/m ³ (Worker)
	DNEL Acute Local	28,4 mg/m ³ (Worker)
	DNEL Longterm System	2,2 mg/m ³ (Worker)

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	DNEL Longterm Local	0,58 mg/m ³ (Worker)
123-42-2 4-hydroxy-4-methylpentan-2-one		
Dermal	DNEL Longterm System	467 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	32,6 mg/m ³ (Worker)
13784-51-5 2,4-Pentadione, peroxide		
Dermal	DNEL Longterm System	5 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	4,41 mg/m ³ (Worker)
123-54-6 pentane-2,4-dione		
Dermal	DNEL Longterm System	12 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	84 mg/m ³ (Worker)
7722-84-1 hydrogen peroxide solution		
Inhalative	DNEL Longterm Local	1,4 mg/m ³ (Worker)
· PNECs		
75-91-2 tert-butyl hydroperoxide		
PNEC Marinewater sed	0,001 mg/kg sed dw	
PNEC Freshwater	0,002 mg/l (AF 1.000)	
PNEC Seawater	0 mg/l (AF 10.000)	
PNEC Freshwater sed	0,006 mg/kg sed dw (-)	
PNEC Soil	0,166 mg/kg soil dw (AF 1.000)	
PNEC STP	0,17 mg/l (AF 100)	
123-42-2 4-hydroxy-4-methylpentan-2-one		
PNEC Marinewater sed	0,74 mg/kg sed dw	
PNEC Freshwater	2 mg/l (AF 50)	
PNEC Freshwater sed	7,4 mg/kg sed dw	
PNEC Soil	0,31 mg/kg soil dw	
PNEC STP	100 mg/l (AF 10)	
PNEC Marinewater	0,2 mg/l (AF 500)	
13784-51-5 2,4-Pentadione, peroxide		
PNEC Marinewater sed	0,153 mg/kg sed dw (-)	
PNEC Freshwater	0,17 mg/l (AF 10)	
PNEC Freshwater sed	1,53 mg/kg sed dw (-)	
PNEC Soil	0,2 mg/kg soil dw (-)	
PNEC STP	6,2 mg/l (AF 10)	
PNEC Marinewater	0,017 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)	
7722-84-1 hydrogen peroxide solution		
PNEC Marinewater sed	0,047 mg/kg sed dw	
PNEC Freshwater	0,013 mg/l (AF 50)	
PNEC Freshwater sed	0,047 mg/kg sed dw	
PNEC Soil	0,002 mg/kg soil dw	
PNEC STP	4,66 mg/l (AF 100)	
PNEC Marinewater	0,013 mg/l (AF 50)	

· **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.

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<ul style="list-style-type: none"> · Respiratory protection: · Hand protection · Material of gloves · Penetration time of glove material · Eye/face protection · Body protection: 	<p>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. 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 exposure limit and when insufficiently ventilated.</p> <p> Filter A2</p> <p>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</p> <p>Protective 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</p> <p>The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.</p> <p> Tightly sealed goggles</p> <p> Protective work clothing</p>
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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

<ul style="list-style-type: none"> · Physical state · Colour: · Odour: · Odour threshold: · Melting point/freezing point: · Boiling point or initial boiling point and boiling range · Flammability · Lower and upper explosion limit · Lower: · Upper: · Flash point: · Decomposition temperature: · pH · Viscosity: · Kinematic viscosity · Dynamic at 20 °C: · Solubility · water: · Partition coefficient n-octanol/water (log value) · Vapour pressure: · Density and/or relative density · Density at 20 °C: · Relative density · Vapour density 	<p>Fluid Colourless Characteristic Not determined. Not applicable. Not applicable. May cause fire. Flammable. Not determined. Not determined. 50 °C +60 °C (SADT) Not determined. Not determined. 11 mPas Undetermined. not determined Not determined. Not determined. 0,99 g/cm³ Not determined. Not determined.</p>
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· 9.2 Other information

<ul style="list-style-type: none"> · Appearance: · Form: 	<p>Fluid</p>
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· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Change in condition	
· Evaporation rate	Not determined.
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· 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
· Other safety characteristics	
· Active oxygen	8,2 - 8,5 %

SECTION 10: Stability and reactivity

· 10.1 Reactivity	No further relevant information available.
· 10.2 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 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	Self-accelerating decomposition at SADT.
· 10.4 Conditions to avoid	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.
· Additional information:	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	Harmful if swallowed or in contact with skin. Toxic if inhaled.

· LD/LC50 values relevant for classification:		
75-91-2 tert-butyl hydroperoxide		
Oral	LD50	805 mg/kg /(70%) (rattus)
Dermal	LD50	633 mg/kg /(70%) (cuniculosus)
Inhalative	LC50 / 4h	1,2 mg/l /(70%) (rattus)
123-42-2 4-hydroxy-4-methylpentan-2-one		
Oral	LD50	3.002 mg/kg (rattus)

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13784-51-5 2,4-Pentadione, peroxide		
Oral	LD50	>2.000 mg/kg (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 severe skin burns and eye damage.	
· Serious eye damage/irritation	Causes serious eye damage.	
· Respiratory or skin sensitisation	May cause an allergic skin reaction.	
· Germ cell mutagenicity	Suspected of causing genetic defects.	
· Carcinogenicity	Suspected of causing cancer.	
· Reproductive toxicity	Suspected of damaging the unborn child.	
· STOT-single exposure	May cause respiratory irritation.	
· STOT-repeated exposure	Based on available data, the classification criteria are not met.	
· Aspiration hazard	Based on available data, the classification criteria are not met.	
11.2 Information on other hazards		
· Endocrine disrupting properties		
None of the ingredients is listed.		

SECTION 12: Ecological information

12.1 Toxicity

· Aquatic toxicity:	
75-91-2 tert-butyl hydroperoxide	
EC50 / 72h	2,1 mg/l ((70%) (selenastrum capricornutum)
LC50 / 96h	42,3 mg/l ((70%) (pimephales promelas)
EC50	24,3 mg/l ((70%) (activa sludge)
EC50 / 48h	20 mg/l ((70%) (daphnia magna)
13784-51-5 2,4-Pentadione, peroxide	
EC50 / 72h	5,4 mg/l (alga (Süßwasser))
LC50 / 96h	67,7 mg/l (piscis)
EC50 / 48h	7,1 mg/l (daphnia magna)
123-54-6 pentane-2,4-dione	
LC50 / 96h	72 mg/l (oncorhynchus mykiss)
EC50 / 48h	75 mg/l (daphnia magna)

12.2 Persistence and degradability

· Degree of elimination:	
· Classification:	
75-91-2 tert-butyl hydroperoxide	
Degradation	(Not readily biodegradable) (OECD 301 D)
123-42-2 4-hydroxy-4-methylpentan-2-one	
Degradation	(Readily biodegradable) (OECD 301 A)
13784-51-5 2,4-Pentadione, peroxide	
Degradation	(Readily biodegradable) (OECD 301 D)
123-54-6 pentane-2,4-dione	
Degradation	(Readily biodegradable) (OECD 301 C)
7722-84-1 hydrogen peroxide solution	
Degradation	(Readily biodegradable)

12.3 Bioaccumulative potential

· Partition coefficient: nOctanol/water: [Log Kow]		
75-91-2	tert-butyl hydroperoxide	0,85 (30 °C)
123-42-2	4-hydroxy-4-methylpentan-2-one	-0,09 (20°C)
13784-51-5	2,4-Pentadione, peroxide	1,1 (20°C)
123-54-6	pentane-2,4-dione	0,68 (20°C)
7722-84-1	hydrogen peroxide solution	-1,57 (20°C)
102-82-9	tributylamine	3,34 (25 °C)
110-05-4	di-tert-butyl peroxide	3,2 (22°C)

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- **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 properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:** Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.









SECTION 13: Disposal considerations

- **13.1 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:** Must not be disposed together with household garbage. Do not allow product to reach sewage system.
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

<ul style="list-style-type: none"> · 14.1 UN number or ID number · ADR, IMDG, IATA 	UN3105
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA 	UN3105 ORGANIC PEROXIDE TYPE D, LIQUID (ACETYL ACETONE PEROXIDE, tert-BUTYL HYDROPEROXIDE), ENVIRONMENTALLY HAZARDOUS ORGANIC PEROXIDE TYPE D, LIQUID (ACETYL ACETONE PEROXIDE, tert-BUTYL HYDROPEROXIDE), MARINE POLLUTANT ORGANIC PEROXIDE TYPE D, LIQUID (ACETYL ACETONE PEROXIDE, tert-BUTYL HYDROPEROXIDE)
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR <div style="display: flex; align-items: center; margin-left: 20px;">    </div>	5.2 (P1) Organic peroxides. 5.2+8
<ul style="list-style-type: none"> · IMDG <div style="display: flex; align-items: center; margin-left: 20px;">    </div>	5.2 Organic peroxides. 5.2/8
<ul style="list-style-type: none"> · IATA <div style="display: flex; align-items: center; margin-left: 20px;">   </div>	5.2 Organic peroxides. 5.2 (8)

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· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · Stowage Category · Stowage Code · Segregation Code	Warning: Organic peroxides. - D SW1 Protected from sources of heat. SG35 Stow "separated from" SGG1-acids SG36 Stow "separated from" SGG18-alkalis. SG72 See 7.2.6.3.2.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	125 ml Code: E0 Not permitted as Excepted Quantity
· Transport category · Tunnel restriction code	2 D
· RID / GGVSEB:	like ADR
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	125 ml 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

E2 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.

· 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.

IE

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Safety data sheet
 according to 1907/2006/EC, Article 31

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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.

· Relevant phrases

H226 Flammable liquid and vapour.
 H242 Heating may cause a fire.
 H271 May cause fire or explosion; strong oxidiser.
 H302 Harmful if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H330 Fatal if inhaled.
 H331 Toxic if inhaled.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H341 Suspected of causing genetic defects.
 H351 Suspected of causing cancer.
 H361d Suspected of damaging the unborn child.
 H411 Toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

· Contact:

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· Version number of previous version:

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· Abbreviations and acronyms:

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
 Ox. Liq. 1: Oxidizing liquids – Category 1
 Org. Perox. D: Organic peroxides – Type C/D
 Org. Perox. F: Organic peroxides – Type E/F
 Acute Tox. 4: Acute toxicity – Category 4
 Acute Tox. 3: Acute toxicity – Category 3
 Acute Tox. 2: Acute toxicity – Category 2
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A
 Skin Corr. 1C: Skin corrosion/irritation – Category 1C
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Skin Sens. 1: Skin sensitisation – Category 1
 Muta. 2: Germ cell mutagenicity – Category 2
 Carc. 2: Carcinogenicity – Category 2
 Repr. 2: Reproductive toxicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· * Data compared to the previous version altered.