

## **NOROX KP-9**

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

#### **1.1 Product identifier**

Trade name : NOROX KP-9

#### **1.2 Relevant identified uses of the substance or mixture and uses advised against**

Use of the Sub-  
stance/Mixture : Hardener

#### **1.3 Details of the supplier of the safety data sheet**

Company : United Initiators AB  
Ulvövägen 7  
SE-893 40 Köpmanholmen

Telephone : +46 660 265830

Telefax : +46 660 223506

E-mail address of person  
responsible for the SDS : info@united-in.com

#### **1.4 Emergency telephone number**

+46 8 337043 (24 h)

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### **SECTION 2: Hazards identification**

#### **2.1 Classification of the substance or mixture**

##### **Classification (REGULATION (EC) No 1272/2008)**

Organic peroxides, Type D H242: Heating may cause a fire.

Acute toxicity, Category 4 H302: Harmful if swallowed.

Skin corrosion, Category 1 H314: Causes severe skin burns and eye damage.

##### **Classification (67/548/EEC, 1999/45/EC)**

Oxidizing R 7: May cause fire.

Corrosive R34: Causes burns.


Harmful R22: Harmful if swallowed.

#### **2.2 Label elements**

##### **Labelling (REGULATION (EC) No 1272/2008)**

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Hazard pictograms	:		
Signal word	:	Danger	
Hazard statements	:	H242 H302 H314	Heating may cause a fire. Harmful if swallowed. Causes severe skin burns and eye damage.
Precautionary statements	:	<p><b>Prevention:</b> P220 P233 P235 P280 P262</p> <p><b>Response:</b> P315 P303 + P361 + P353 P305 + P351 + P338</p> <p><b>Disposal:</b> P501</p>	<p>Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials. Keep container tightly closed. Keep cool. Wear protective gloves/ protective clothing/ eye protection/ face protection. Do not get in eyes, on skin, or on clothing.</p> <p>Get immediate medical advice/ attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>Dispose of contents/ container to an approved waste disposal plant.</p>

Hazardous components which must be listed on the label:  
2-Butanone, peroxide

### 2.3 Other hazards

Vapours may form explosive mixture with air.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
2-Butanone, peroxide	1338-23-4 215-661-2 01-	O; R 7 C; R34 Xn; R22	Org. Perox. D; H242 Acute Tox. 4; H302	>= 30 - < 50

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	2119514691-43		Skin Corr. 1; H314	
Hydrogen peroxide	7722-84-1 231-765-0	O; R 8 R 5 C; R35 Xn; R20/22	Ox. Liq. 1; H271 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1A; H314 STOT SE 3; H335 Aquatic Chronic 3; H412	>= 1 - < 2.5
2-Methyl-2,4-pentanediol	107-41-5 203-489-0 01- 2119539582-35	Xi; R36/38	Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 1 - < 3

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- General advice** : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- Protection of first-aiders** : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.
- If inhaled** : If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention immediately.
- In case of skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention immediately.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact** : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention immediately.
- If swallowed** : If swallowed, DO NOT induce vomiting.  
If vomiting occurs have person lean forward.  
Call a physician or poison control centre immediately.

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Rinse mouth thoroughly with water.  
Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes digestive tract burns.  
Harmful if swallowed.  
Causes serious eye damage.  
Causes severe burns.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.  
Flash back possible over considerable distance.  
Vapours may form explosive mixtures with air.  
The product burns violently.  
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

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### **SECTION 6: Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Remove all sources of ignition.  
Use personal protective equipment.  
Follow safe handling advice and personal protective equipment recommendations.

#### **6.2 Environmental precautions**

Environmental precautions : Discharge into the environment must be avoided.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g. by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

#### **6.3 Methods and material for containment and cleaning up**

Methods for cleaning up : Clear spills immediately.  
Do not clean-up or dispose of, except under supervision of a specialist.  
Take any precaution to avoid mixing with combustibles.  
Keep substance wet using water spray.  
Non-sparking tools should be used.  
Soak up with inert absorbent material.  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
Keep waste moist, cool and well-ventilated.  
Isolate waste and do not reuse.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

#### **6.4 Reference to other sections**

See sections: 7, 8, 11, 12 and 13.

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### **SECTION 7: Handling and storage**

#### **7.1 Precautions for safe handling**

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

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- Local/Total ventilation : Use with local exhaust ventilation.  
Use only in an area equipped with explosion proof exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.  
Do not breathe vapours or spray mist.  
Do not swallow.  
Do not get in eyes.  
Handle in accordance with good industrial hygiene and safety practice.  
Non-sparking tools should be used.  
Prevent pressure build-up. Confinement can rapidly increase rate of decomposition.  
Keep container tightly closed.  
Protect from contamination.  
Keep away from heat and sources of ignition.  
Take precautionary measures against static discharges.  
Keep away from combustible material.  
Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

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

- Requirements for storage areas and containers : Keep in properly labelled containers. Store in original container. Store locked up. Keep tightly closed. Keep in a dry, cool and well-ventilated place. Protect from sunlight. Adhere to recommended storage temperature. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.
- Advice on common storage : Store away from other materials.
- Recommended storage temperature : < 30 °C
- Other data : Avoid confinement.

**7.3 Specific end use(s)**

- Specific use(s) : No data available

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**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational Exposure Limits**

Components	CAS-No.	Value type (Form	Control parameters	Basis
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		of exposure)		
dimethyl phthalate	131-11-3	TWA	5 mg/m <sup>3</sup>	GB EH40
		STEL	10 mg/m <sup>3</sup>	GB EH40
2-Butanone, peroxide	1338-23-4	STEL	0.2 ppm 1.5 mg/m <sup>3</sup>	GB EH40
Hydrogen peroxide	7722-84-1	TWA	1 ppm 1.4 mg/m <sup>3</sup>	GB EH40
		STEL	2 ppm 2.8 mg/m <sup>3</sup>	GB EH40
2-Methyl-2,4-pentandiol	107-41-5	TWA	25 ppm 123 mg/m <sup>3</sup>	GB EH40
		STEL	25 ppm 123 mg/m <sup>3</sup>	GB EH40

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

2-Butanone, peroxide : End Use: Workers  
Exposure routes: Inhalation  
Potential health effects: Long-term systemic effects  
Value: 1.9 mg/m<sup>3</sup>  
End Use: Workers  
Exposure routes: Skin contact  
Potential health effects: Long-term systemic effects  
Value: 1.08 mg/kg bw/day  
End Use: Consumers  
Exposure routes: Inhalation  
Potential health effects: Long-term systemic effects  
Value: 0.41 mg/m<sup>3</sup>  
End Use: Consumers  
Exposure routes: Skin contact  
Potential health effects: Long-term systemic effects  
Value: 0.54 mg/kg bw/day  
End Use: Consumers  
Exposure routes: Ingestion  
Potential health effects: Long-term systemic effects  
Value: 0.27 mg/kg bw/day

dimethyl phthalate : End Use: Workers  
Exposure routes: Inhalation  
Potential health effects: Long-term systemic effects  
Value: 293.86 mg/m<sup>3</sup>  
End Use: Workers  
Exposure routes: Skin contact  
Potential health effects: Long-term systemic effects  
Value: 100 mg/kg bw/day  
End Use: Consumers  
Exposure routes: Inhalation  
Potential health effects: Long-term systemic effects  
Value: 86.96 mg/m<sup>3</sup>  
End Use: Consumers  
Exposure routes: Skin contact  
Potential health effects: Long-term systemic effects  
Value: 60 mg/kg bw/day  
End Use: Consumers  
Exposure routes: Ingestion  
Potential health effects: Long-term systemic effects

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2-Methyl-2,4-pentanediol

Value: 25 mg/kg bw/day  
: End Use: Workers  
Exposure routes: Inhalation  
Potential health effects: Long-term systemic effects  
Value: 14 mg/m<sup>3</sup>  
End Use: Workers  
Exposure routes: Inhalation  
Potential health effects: Long-term local effects  
Value: 49 mg/m<sup>3</sup>  
End Use: Workers  
Exposure routes: Inhalation  
Potential health effects: Acute local effects  
Value: 98 mg/m<sup>3</sup>  
End Use: Workers  
Exposure routes: Skin contact  
Potential health effects: Long-term systemic effects  
Value: 2 mg/kg bw/day  
End Use: Consumers  
Exposure routes: Inhalation  
Potential health effects: Long-term systemic effects  
Value: 3.5 mg/m<sup>3</sup>  
End Use: Consumers  
Exposure routes: Inhalation  
Potential health effects: Long-term local effects  
Value: 25 mg/m<sup>3</sup>  
End Use: Consumers  
Exposure routes: Inhalation  
Potential health effects: Acute local effects  
Value: 49 mg/m<sup>3</sup>  
End Use: Consumers  
Exposure routes: Skin contact  
Potential health effects: Long-term systemic effects  
Value: 1 mg/kg bw/day  
End Use: Consumers  
Exposure routes: Ingestion  
Potential health effects: Long-term systemic effects  
Value: 1 mg/kg bw/day  
: End Use: Workers  
Exposure routes: Inhalation  
Potential health effects: Acute local effects  
Value: 3 mg/m<sup>3</sup>  
End Use: Workers  
Exposure routes: Inhalation  
Potential health effects: Long-term local effects  
Value: 1.4 mg/m<sup>3</sup>  
End Use: Consumers  
Exposure routes: Inhalation  
Potential health effects: Acute local effects  
Value: 1.93 mg/m<sup>3</sup>  
End Use: Consumers  
Exposure routes: Inhalation  
Potential health effects: Long-term local effects  
Value: 0.21 mg/m<sup>3</sup>

Hydrogen peroxide

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**



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2-Butanone, peroxide : Fresh water  
Value: 0.0056 mg/l  
Marine water  
Value: 0.00056 mg/l  
Intermittent use/release  
Value: 0.056 mg/l  
Sewage treatment plant  
Value: 1.2 mg/l  
Fresh water sediment  
Value: 0.019 mg/kg  
Marine sediment  
Value: 0.0019 mg/kg  
Soil  
Value: 0.00231 mg/kg

dimethyl phthalate : Fresh water  
Value: 0.192 mg/l  
Marine water  
Value: 0.0192 mg/l  
Intermittent use/release  
Value: 0.39 mg/l  
Sewage treatment plant  
Value: 4 mg/l  
Fresh water sediment  
Value: 1.403 mg/kg  
Soil  
Value: 3.16 mg/kg

2-Methyl-2,4-pentanediol : Fresh water  
Value: 0.429 mg/l  
Marine water  
Value: 0.0429 mg/l  
Intermittent use/release  
Value: 4.29 mg/l  
Sewage treatment plant  
Value: 20 mg/l  
Fresh water sediment  
Value: 1.79 mg/kg  
Marine sediment  
Value: 0.179 mg/kg  
Soil  
Value: 0.11 mg/kg  
Oral  
Value: 100 mg/kg

Hydrogen peroxide : Fresh water  
Value: 0.0126 mg/l  
Marine water  
Value: 0.0126 mg/l  
Intermittent use/release  
Value: 0.0138 mg/l  
Sewage treatment plant  
Value: 4.66 mg/l  
Fresh water sediment  
Value: 0.047 mg/kg  
Marine sediment  
Value: 0.047 mg/kg

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Soil  
Value: 0.0023 mg/kg

### 8.2 Exposure controls

#### Engineering measures

Minimize workplace exposure concentrations.  
Use only in an area equipped with explosion proof exhaust ventilation.  
Use with local exhaust ventilation.

#### Personal protective equipment

- Eye protection : Wear the following personal protective equipment:  
Chemical resistant goggles must be worn.  
If splashes are likely to occur, wear:  
Face-shield
- Hand protection  
Material : butyl-rubber  
Break through time :  $\geq 480$  min  
Glove thickness : 0.5 mm
- Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Wear the following personal protective equipment:  
Flame retardant antistatic protective clothing.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
- Filter type : Combined inorganic gas/vapour and organic vapour type (AB)
- 

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance : liquid
- Colour : colourless, clear
- Odour : mint-like
- Odour Threshold : No data available

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pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
		Decomposition
Flash point	:	> 80 °C Method: ISO 3679
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1.11 - 1.13 g/cm <sup>3</sup>
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	The substance or mixture is not classified self-reactive.
Viscosity		
Viscosity, dynamic	:	18 - 22 mPa.s
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

### **9.2 Other information**

Self-Accelerating decomposition temperature (SADT)	:	>= 60 °C Method: UN-Test H.4
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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Heating may cause a fire.

#### 10.2 Chemical stability

Stable if used as directed. Follow precautionary advice and avoid incompatible materials and conditions.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : Combustible liquid.  
Vapours may form explosive mixture with air.  
Oxidizing material can cause a reaction.

#### 10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.  
Protect from contamination.  
Temperatures greater than recommended storage temperature.  
Contact with incompatible substances can cause decomposition at or below SADT.

#### 10.5 Incompatible materials

Materials to avoid : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents  
Oxidizing agents  
Avoid impurities (e.g. rust, dust, ash), risk of decomposition.  
Flammable materials

#### 10.6 Hazardous decomposition products

No hazardous decomposition products are known.

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Harmful if swallowed.

#### Product:

Acute oral toxicity : Acute toxicity estimate: 1,461 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l  
Exposure time: 4 h

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Test atmosphere: dust/mist  
Method: Calculation method

### Components:

#### **2-Butanone, peroxide:**

Acute oral toxicity : Acute toxicity estimate: 500 mg/kg  
Method: Expert judgement

Acute dermal toxicity : Acute toxicity estimate: 2,500 mg/kg  
Method: Expert judgement

#### **Hydrogen peroxide:**

Acute oral toxicity : LD50 (Rat): 693.7 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 0.17 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute toxicity estimate: 1.5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Expert judgement  
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

#### **2-Methyl-2,4-pentanediol:**

Acute oral toxicity : LD50 (Rat): 4,700 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### **Skin corrosion/irritation**

Causes severe burns.

### Components:

#### **2-Butanone, peroxide:**

Result: Corrosive after 4 hours or less of exposure

#### **Hydrogen peroxide:**

Result: Corrosive after 3 minutes or less of exposure

#### **2-Methyl-2,4-pentanediol:**

Result: Skin irritation

Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

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### Serious eye damage/eye irritation

Causes serious eye damage.

#### Components:

##### **2-Butanone, peroxide:**

Result: Irreversible effects on the eye

##### **Hydrogen peroxide:**

Result: Irreversible effects on the eye

##### **2-Methyl-2,4-pentanediol:**

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

### Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

#### Components:

##### **2-Butanone, peroxide:**

Assessment: Does not cause skin sensitisation.

##### **2-Methyl-2,4-pentanediol:**

Test Type: Maximisation Test (GPMT)

Exposure routes: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: negative

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### **Hydrogen peroxide:**

Genotoxicity in vitro : Test Type: Ames test  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo  
cytogenetic assay)  
Species: Mouse  
Result: negative

##### **2-Methyl-2,4-pentanediol:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

### Carcinogenicity

Not classified based on available information.

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### Reproductive toxicity

Not classified based on available information.

#### Components:

##### **2-Butanone, peroxide:**

##### **2-Methyl-2,4-pentanediol:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 421  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative

### STOT - single exposure

Not classified based on available information.

#### Components:

##### **Hydrogen peroxide:**

Assessment: May cause respiratory irritation.

### STOT - repeated exposure

Not classified based on available information.

### Repeated dose toxicity

#### Components:

##### **Hydrogen peroxide:**

Species: Mouse  
Application Route: Ingestion  
Exposure time: 90 d  
Symptoms: No adverse effects

##### **2-Methyl-2,4-pentanediol:**

Species: Rat  
NOAEL: 450 mg/kg  
Application Route: Ingestion  
Exposure time: 90 d  
Method: OECD Test Guideline 408

### Aspiration toxicity

Not classified based on available information.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

##### Components:

##### **2-Butanone, peroxide:**

Toxicity to algae : EC50 : > 1 - 10 mg/l  
Exposure time: 72 h

EC10 : > 1 - 10 mg/l  
Exposure time: 72 h

##### **Hydrogen peroxide:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 16.4 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : LC50 (Daphnia pulex (Water flea)): 2.4 mg/l  
aquatic invertebrates Exposure time: 48 h

Toxicity to algae : EC50 (Skeletonema costatum (marine diatom)): 1.38 mg/l  
Exposure time: 72 h

NOEC (Skeletonema costatum (marine diatom)): 0.63 mg/l  
Exposure time: 72 h

Toxicity to bacteria : EC50 : > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

Toxicity to daphnia and other : NOEC: 0.63 mg/l  
aquatic invertebrates (Chronic toxicity) Exposure time: 21 d  
Species: Daphnia magna (Water flea)

##### **2-Methyl-2,4-pentanediol:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 8,690 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 5,410 mg/l  
aquatic invertebrates Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 429 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

#### 12.2 Persistence and degradability

##### Components:

##### **2-Butanone, peroxide:**



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Biodegradability : Result: rapidly degradable

**Hydrogen peroxide:**

Biodegradability : Result: rapidly degradable

**2-Methyl-2,4-pentanediol:**

Biodegradability : Result: Readily biodegradable  
Biodegradation: 81 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

### 12.3 Bioaccumulative potential

**Components:**

**2-Butanone, peroxide:**

Partition coefficient: n-octanol/water : log Pow: < 0.3

**Hydrogen peroxide:**

Partition coefficient: n-octanol/water : log Pow: -1.57 (20 °C)  
Remarks: Calculation

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

Not relevant

### 12.6 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.  
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.  
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging : Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not burn, or use a cutting torch on, the empty drum.

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## SECTION 14: Transport information

### 14.1 UN number

ADN : UN 3105

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**ADR** : UN 3105  
**RID** : UN 3105  
**IMDG** : UN 3105  
**IATA** : UN 3105

### 14.2 UN proper shipping name

**ADN** : ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S))  
**ADR** : ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S))  
**RID** : ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S))  
**IMDG** : ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S))  
**IATA** : Organic peroxide type D, liquid (Methyl ethyl ketone peroxide(s))

### 14.3 Transport hazard class(es)

**ADN** : 5.2  
**ADR** : 5.2  
**RID** : 5.2  
**IMDG** : 5.2  
**IATA** : 5.2

### 14.4 Packing group

**ADN**  
Packing group : Not assigned by regulation  
Classification Code : P1  
Labels : 5.2

**ADR**  
Packing group : Not assigned by regulation  
Classification Code : P1  
Labels : 5.2  
Tunnel restriction code : (D)

**RID**  
Packing group : Not assigned by regulation  
Classification Code : P1  
Hazard Identification Number : 539  
Labels : 5.2

**IMDG**  
Packing group : Not assigned by regulation  
Labels : 5.2  
EmS Code : F-J, S-R

**IATA**

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Packing instruction (cargo aircraft)	: 570
Packing instruction (passenger aircraft)	: 570
Packing group	: Not assigned by regulation
Labels	: Organic Peroxides, Keep Away From Heat

### 14.5 Environmental hazards

**ADN**  
 Environmentally hazardous : no

**ADR**  
 Environmentally hazardous : no

**RID**  
 Environmentally hazardous : no

**IMDG**  
 Marine pollutant : no

### 14.6 Special precautions for user

Not applicable

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks : Not applicable for product as supplied.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

3	Oxidizing	Quantity 1 50 t	Quantity 2 200 t
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Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P6b	SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES	50 t	200 t
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Other regulations : BGV B4 organische Peroxide. (German regulatory requirements)  
Gefahrengruppe nach § 3 BGV B4: Ib (German regulatory requirements)  
BG-Merkblatt M001 beachten (German regulatory requirements)  
Produkt unterliegt nicht dem Sprengstoffgesetz (SprengG). (German regulatory requirements)

Take note of Dir 94/33/EC on the protection of young people at work.

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out.

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## SECTION 16: Other information

### Full text of R-Phrases

R 5 : Heating may cause an explosion.  
R 7 : May cause fire.  
R 8 : Contact with combustible material may cause fire.  
R20/22 : Harmful by inhalation and if swallowed.  
R22 : Harmful if swallowed.  
R34 : Causes burns.  
R35 : Causes severe burns.  
R36/38 : Irritating to eyes and skin.

### Full text of H-Statements

H242 : Heating may cause a fire.  
H271 : May cause fire or explosion; strong oxidizer.  
H302 : Harmful if swallowed.  
H314 : Causes severe skin burns and eye damage.  
H315 : Causes skin irritation.  
H319 : Causes serious eye irritation.  
H332 : Harmful if inhaled.  
H335 : May cause respiratory irritation.  
H412 : Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Aquatic Chronic : Chronic aquatic toxicity  
Eye Irrit. : Eye irritation  
Org. Perox. : Organic peroxides  
Ox. Liq. : Oxidizing liquids  
Skin Corr. : Skin corrosion  
Skin Irrit. : Skin irritation  
STOT SE : Specific target organ toxicity - single exposure  
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits  
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)  
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

### Further information

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Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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