

# SAFETY DATA SHEET

## NOROX<sup>®</sup> KP-9



Version 2.0      Revision Date: 25.09.2023      SDS Number: 600000000306      Date of last issue: 28.11.2022  
Date of first issue: 28.04.2021

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : NOROX<sup>®</sup> KP-9

#### Manufacturer or supplier's details

Company : United Initiators GmbH  
Address : Dr.-Gustav-Adolph-Str. 3  
82049 Pullach  
Telephone : +49 / 89 / 74422 – 0  
Emergency telephone number : +49 / 89 / 74422 – 0 (24 h)  
E-mail address : contact@united-in.com

#### Recommended use of the chemical and restrictions on use

Recommended use : Curing chemical

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### 2. HAZARDS IDENTIFICATION

#### Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

##### Classification

Flammable liquid

##### GHS Classification

Flammable liquids : Category 4  
Organic peroxides : Type D  
Acute toxicity (Oral) : Category 4  
Acute toxicity (Inhalation) : Category 4  
Skin corrosion/irritation : Sub-category 1B  
Serious eye damage/eye irritation : Category 1  
Reproductive toxicity : Category 2  
Short-term (acute) aquatic hazard : Category 2

#### GHS label elements

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Hazard pictograms



Signal word

: Danger

Hazard statements

: H227 Combustible liquid.  
H242 Heating may cause a fire.  
H302 + H332 Harmful if swallowed or if inhaled.  
H314 Causes severe skin burns and eye damage.  
H361d Suspected of damaging the unborn child.  
H401 Toxic to aquatic life.

Precautionary statements

: **Prevention:**  
P203 Obtain, read and follow all safety instructions before use.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P234 Keep only in original packaging.  
P240 Ground and bond container and receiving equipment.  
P261 Avoid breathing mist or vapours.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

**Response:**  
P301 + P317 + P330 IF SWALLOWED: Get medical help. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P302 + P361 + P354 IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.  
P304 + P340 + P316 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately.  
P305 + P354 + P338 + P317 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.  
P318 IF exposed or concerned, get medical advice.  
P363 Wash contaminated clothing before reuse.  
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

**Storage:**  
P403 Store in a well-ventilated place.  
P405 Store locked up.  
P410 Protect from sunlight.

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P411 Store at temperatures not exceeding < 30 °C/ < 86 °F.  
P420 Store separately.

### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards which do not result in classification

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture  
Chemical nature : Organic Peroxide  
Liquid mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
dimethyl phthalate	131-11-3	>= 55 - < 65
2-Butanone, peroxide	1338-23-4	>= 30 - < 35
hydrogen peroxide	7722-84-1	>= 1 - < 2.5
2-methylpentane-2,4-diol	107-41-5	>= 0.1 - < 1

## 4. FIRST AID MEASURES

General advice : Take off contaminated clothing and shoes immediately.  
Call a physician immediately.  
Never give anything by mouth to an unconscious person.  
If unconscious, place in recovery position and seek medical advice.  
Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.  
Symptoms of poisoning may appear several hours later.

If inhaled : Administer oxygen if breathing is difficult or cyanosis is observed.  
Call a physician immediately.  
If breathed in, move person into fresh air.  
If not breathing, give artificial respiration.  
Respiratory tract burning possible if aerosols are inhaled.  
Call a physician or poison control centre immediately.  
If unconscious, place in recovery position and seek medical advice.  
Keep respiratory tract clear.

In case of skin contact : If symptoms persist, call a physician.  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficul-

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- ty.  
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Wash contaminated clothing before re-use.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Call a physician immediately.  
Rinse mouth thoroughly with water.  
Keep respiratory tract clear.  
Do NOT induce vomiting.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed or if inhaled.  
Causes serious eye damage.  
Suspected of damaging the unborn child.  
Causes severe burns.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
- Notes to physician : Treat symptomatically and supportively.

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### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray jet  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Risk of explosion if heated under confinement.  
Possible emission of gaseous decomposition products may lead to a dangerous pressure build-up.  
Avoid confinement.  
Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which

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may auto-ignite.  
The product burns violently.  
Flash back possible over considerable distance.  
Do not allow run-off from fire fighting to enter drains or water courses.  
Vapours may form explosive mixtures with air.  
The product will float on water and can be reignited on surface water.  
Cool closed containers exposed to fire with water spray.

- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use a water spray to cool fully closed containers.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Do not use a solid water stream as it may scatter and spread fire.  
Remove undamaged containers from fire area if it is safe to do so.  
Use water spray to cool unopened containers.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.  
Use personal protective equipment.

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### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Follow safe handling advice and personal protective equipment recommendations.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
Use personal protective equipment.  
Remove all sources of ignition.  
Never return spills in original containers for re-use.  
Treat recovered material as described in the section "Disposal considerations".
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contact with incompatible substances can cause decomposition at or below SADT.  
Clear spills immediately.  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
To clean the floor and all objects contaminated by this materi-

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al, use plenty of water.  
Soak up with inert absorbent material.  
Isolate waste and do not reuse.  
Non-sparking tools should be used.  
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.

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### 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Advice on protection against fire and explosion : Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).  
Keep away from heat and sources of ignition.  
Use only explosion-proof equipment.  
Keep away from open flames, hot surfaces and sources of ignition.  
Keep away from combustible material.  
Do not spray on a naked flame or any incandescent material.
- Advice on safe handling : Open drum carefully as content may be under pressure.  
Protect from contamination.  
Do not swallow.  
Do not breathe vapours/dust.  
Avoid contact with skin and eyes.  
Avoid formation of aerosol.  
Take precautionary measures against static discharges.  
Never return any product to the container from which it was originally removed.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Avoid confinement.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Smoking, eating and drinking should be prohibited in the application area.  
Wash thoroughly after handling.  
For personal protection see section 8.
- Conditions for safe storage : Store in original container.  
Keep containers tightly closed in a cool, well-ventilated place.  
Store in cool place.  
Keep in a well-ventilated place.  
Contamination may result in dangerous pressure increases - closed containers may rupture.  
Observe label precautions.  
Store in accordance with the particular national regulations.  
Avoid impurities (e.g. rust, dust, ash), risk of decomposition.  
Electrical installations / working materials must comply with

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the technological safety standards.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Materials to avoid : Keep away from strong acids, bases, heavy metal salts and other reducing substances.

Recommended storage temperature : < 30 °C

Further information on storage stability : No decomposition if stored normally.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
dimethyl phthalate	131-11-3	TWA	5 mg/m <sup>3</sup>	ACGIH
2-Butanone, peroxide	1338-23-4	C	0.2 ppm	ACGIH
hydrogen peroxide	7722-84-1	TWA	1 ppm 1.5 mg/m <sup>3</sup>	IN OEL
		TWA	1 ppm	ACGIH
2-methylpentane-2,4-diol	107-41-5	TWA (Vapour)	25 ppm	ACGIH
		STEL (Vapour)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m <sup>3</sup>	ACGIH

Engineering measures : Minimize workplace exposure concentrations.

#### Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

Filter type : ABEK-filter

#### Hand protection

Material : Nitrile rubber  
Break through time : < 30 min  
Glove thickness : 0.40 mm

Material : butyl-rubber  
Break through time : <= 480 min  
Glove thickness : 0.47 mm

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- Remarks : The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. 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.
- Eye protection : Ensure that eyewash stations and safety showers are close to the workstation location.  
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.  
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.  
Tightly fitting safety goggles  
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.  
Wear as appropriate:  
Flame retardant antistatic protective clothing.
- Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Hygiene measures : Avoid contact with skin, eyes and clothing.  
Keep away from food and drink.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and immediately after handling the product.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : colourless, clear
- Odour : mint-like



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Odour Threshold : not determined

pH : not determined

Melting point/freezing point : not determined

Initial boiling point and boiling range : Decomposition: Decomposes below the boiling point.

Flash point : > 80 °C  
Method: closed cup

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Flammable liquid

Self-ignition : The substance or mixture is not classified as pyrophoric.

Upper explosion limit / Upper flammability limit : Upper explosion limit not determined

Lower explosion limit / Lower flammability limit : Lower explosion limit not determined

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : not determined

Density : ca. 1.1 g/cm<sup>3</sup> (20 °C)

Solubility(ies)  
Water solubility : slightly soluble

Solubility in other solvents : Solvent: organic solvents  
Description: soluble  
  
Solvent: Phthalates  
Description: soluble

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : not determined

Self-Accelerating decomposi- : 60 °C

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tion temperature (SADT)	Method: UN-Test H.4 SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.
Viscosity	
Viscosity, dynamic	: 9 - 15 mPa.s ( 20 °C)
Viscosity, kinematic	: not determined
Explosive properties	: Not explosive In use, may form flammable/explosive vapour-air mixture.
Oxidizing properties	: The substance or mixture is not classified as oxidizing. Organic peroxide
Self-heating substances	: The substance or mixture is not classified as self heating.
Particle size	: Not applicable

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### 10. STABILITY AND REACTIVITY

Reactivity	: Stable under recommended storage conditions. Heating may cause a fire or explosion.
Chemical stability	: Stable under recommended storage conditions. No decomposition if stored normally.
Possibility of hazardous reactions	: Vapours may form explosive mixture with air.
Conditions to avoid	: Protect from contamination. Contact with incompatible substances can cause decomposition at or below SADT. Heat, flames and sparks. Avoid confinement.
Incompatible materials	: Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents
Hazardous decomposition products	: Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition

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### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if swallowed or if inhaled.

#### **Product:**

Acute oral toxicity	: Acute toxicity estimate: 1,401 mg/kg
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Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 4.24 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

### **Components:**

#### **dimethyl phthalate:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : (Rat): > 10.4 mg/l  
Exposure time: 6 h  
Test atmosphere: vapour  
Remarks: No mortality observed at this dose.

Acute dermal toxicity : LD50 (Rabbit): > 12,000 mg/kg

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

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

Acute inhalation toxicity : Acute toxicity estimate: 1.5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Expert judgement  
Assessment: The component/mixture is moderately toxic after short term inhalation.  
Remarks: Based on data from similar materials

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

#### **hydrogen peroxide:**

Acute oral toxicity : LD50 (Rat, male and female): 431 mg/kg  
Method: Expert judgement  
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : Acute toxicity estimate: 1.5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The component/mixture is moderately toxic after short term inhalation.  
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

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Acute dermal toxicity : LD50 (Rabbit): 9,200 mg/kg  
Remarks: No adverse effect has been observed in acute toxicity tests.

### **2-methylpentane-2,4-diol:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 420  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: No mortality observed at this dose.

Acute inhalation toxicity : LC50 (Rat, male): > 55 mg/l  
Exposure time: 8 h  
Test atmosphere: vapour  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: No mortality observed at this dose.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: No mortality observed at this dose.

### **Skin corrosion/irritation**

Causes severe burns.

#### **Product:**

Remarks : Extremely corrosive and destructive to tissue.

#### **Components:**

##### **dimethyl phthalate:**

Species : Rabbit  
Method : Draize Test  
Result : No skin irritation

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

Species : Rabbit  
Result : Causes burns.

##### **hydrogen peroxide:**

Result : Corrosive after 3 minutes or less of exposure

##### **2-methylpentane-2,4-diol:**

Species : Rabbit  
Method : OECD Test Guideline 404

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

### Serious eye damage/eye irritation

Causes serious eye damage.

#### Product:

Remarks : May cause irreversible eye damage.

#### Components:

##### dimethyl phthalate:

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : No eye irritation

##### 2-Butanone, peroxide:

Result : Irreversible effects on the eye

##### hydrogen peroxide:

Result : Irreversible effects on the eye  
Remarks : hydrogen peroxide, 35%

Remarks : May cause irreversible eye damage.

##### 2-methylpentane-2,4-diol:

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : irritating  
Remarks : Based on harmonised classification in EU regulation 1272/2008, Annex VI

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Components:

##### dimethyl phthalate:

Species : Mouse  
Method : OECD Test Guideline 429  
Result : Does not cause skin sensitisation.

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

Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.  
  
Assessment : Harmful if swallowed., Harmful if inhaled.

### **2-methylpentane-2,4-diol:**

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

### **Germ cell mutagenicity**

Not classified based on available information.

### **Components:**

#### **dimethyl phthalate:**

Genotoxicity in vitro : Method: OECD Test Guideline 471  
Result: negative  
  
Method: OECD Test Guideline 473  
Result: negative  
  
Method: OECD Test Guideline 476  
Result: positive  
  
Genotoxicity in vivo : Test Type: Chromosomal aberration  
Species: Rat  
Application Route: Intraperitoneal  
Result: negative  
  
Test Type: Micronucleus test  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

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

Genotoxicity in vitro : Method: OECD Test Guideline 473  
Result: negative  
  
Method: OECD Test Guideline 471  
Result: negative  
  
Method: OECD Test Guideline 476  
Result: negative

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### hydrogen peroxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative  
positive  
Remarks: Information taken from reference works and the literature.

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive  
Remarks: Information taken from reference works and the literature.

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse (male and female)  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: hydrogen peroxide, 35%

Germ cell mutagenicity - Assessment : Based on available data, the classification criteria are not met.

### 2-methylpentane-2,4-diol:

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

### Carcinogenicity

Not classified based on available information.

### Components:

#### dimethyl phthalate:

Species : Rat

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Application Route : Skin contact  
Method : OECD Test Guideline 451  
Result : negative  
Remarks : Based on data from similar materials

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

Remarks : This information is not available.

### **hydrogen peroxide:**

Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.

### **2-methylpentane-2,4-diol:**

Remarks : This information is not available.

Carcinogenicity - Assessment : Based on available data, the classification criteria are not met.

### **Reproductive toxicity**

Suspected of damaging the unborn child.

### **Components:**

#### **dimethyl phthalate:**

Effects on fertility : Species: Rat  
Application Route: oral (gavage)  
Method: OECD Test Guideline 440  
Result: negative

Effects on foetal development : Species: Rat  
Application Route: Ingestion  
General Toxicity Maternal: NOAEL: 840 mg/kg body weight  
Developmental Toxicity: NOAEL: 3,570 mg/kg body weight  
Method: OECD Test Guideline 414

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

Effects on fertility : Species: Rat  
Application Route: oral (gavage)  
General Toxicity - Parent: NOAEL: 50 mg/kg body weight  
Method: OECD Test Guideline 421  
Result: negative

#### **hydrogen peroxide:**

Reproductive toxicity - Assessment : No data available



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### 2-methylpentane-2,4-diol:

Effects on fertility : Species: Rat  
Strain: wistar  
Application Route: oral (gavage)  
Method: OECD Test Guideline 443  
Result: negative

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments., Suspected of damaging the unborn child.

### STOT - single exposure

Not classified based on available information.

#### Components:

#### hydrogen peroxide:

Target Organs : Respiratory Tract  
Assessment : May cause respiratory irritation.

### 2-methylpentane-2,4-diol:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

### STOT - repeated exposure

Not classified based on available information.

#### Components:

#### hydrogen peroxide:

Remarks : No data available

### 2-methylpentane-2,4-diol:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Components:

#### dimethyl phthalate:

Species : Rat  
NOAEL : 770 mg/kg  
Application Route : Oral  
Exposure time : 16 w  
Method : OECD Test Guideline 408

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

Species : Rat  
NOAEL : 200 mg/kg  
Application Route : oral (gavage)  
Exposure time : 28 d  
Method : OECD Test Guideline 407

Repeated dose toxicity - Assessment : Harmful if swallowed., Harmful if inhaled.

### **hydrogen peroxide:**

Species : Mouse, female  
NOAEL : 37 mg/kg  
Application Route : oral (drinking water)  
Exposure time : 90 d  
Remarks : hydrogen peroxide, 35%

Species : Mouse, males  
NOAEL : 26 mg/kg  
Application Route : oral (drinking water)  
Exposure time : 90  
Remarks : hydrogen peroxide, 35%

### **2-methylpentane-2,4-diol:**

Species : Rat, male and female  
NOAEL : 450 mg/kg bw/day  
Application Route : Ingestion  
Exposure time : 90  
Method : OECD Test Guideline 408

### **Aspiration toxicity**

Not classified based on available information.

### **Components:**

#### **dimethyl phthalate:**

No aspiration toxicity classification

#### **hydrogen peroxide:**

Based on available data, the classification criteria are not met.

#### **2-methylpentane-2,4-diol:**

Based on available data, the classification criteria are not met.

### **Further information**

#### **Product:**

Remarks : No data available

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### Components:

#### **dimethyl phthalate:**

Remarks : No data available

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## 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### Components:

#### **dimethyl phthalate:**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 39 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 52 mg/l  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC50 ( Desmodesmus subspicatus (green algae)): 260 mg/l  
Exposure time: 72 h
- Toxicity to microorganisms : EC50: 4,100 mg/l  
Exposure time: 0.5 h  
Method: OECD Test Guideline 209
- Toxicity to fish (Chronic toxicity) : NOEC: 11 mg/l  
Exposure time: 102 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Method: OECD Test Guideline 210
- LOEC: 24 mg/l  
Exposure time: 102 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Method: OECD Test Guideline 210
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 9.6 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)
- LOEC: 23 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)
- #### **2-Butanone, peroxide:**
- Toxicity to fish : LC50 (Poecilia reticulata (guppy)): 44.2 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203
- NOEC (Poecilia reticulata (guppy)): 18 mg/l

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- Exposure time: 96 h  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 39 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- NOEC (Daphnia magna (Water flea)): 26.7 mg/l  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 5.6 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- NOEC (Pseudokirchneriella subcapitata (green algae)): 2.1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50 (Bacteria): 48 mg/l  
Exposure time: 0.5 h  
Method: OECD Test Guideline 209
- hydrogen peroxide:**
- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 16.4 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia pulex (Water flea)): 2.4 mg/l  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : 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 microorganisms : EC50 (activated sludge): > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.63 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)
- 2-methylpentane-2,4-diol:**
- Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): 8,510 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

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aquatic invertebrates      Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants      :    EC50 ( Pseudokirchneriella subcapitata (green algae)): 429 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201

NOEC ( Raphidocelis subcapitata (freshwater green alga)): 729 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201

Toxicity to microorganisms      :    Remarks: No data available

### Persistence and degradability

#### Components:

##### **dimethyl phthalate:**

Biodegradability      :    Result: Readily biodegradable.  
Method: OECD Test Guideline 301E

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

Biodegradability      :    Result: Readily biodegradable.  
Method: OECD Test Guideline 301D

##### **hydrogen peroxide:**

Biodegradability      :    Result: Readily biodegradable.

##### **2-methylpentane-2,4-diol:**

Biodegradability      :    aerobic  
Inoculum: activated sludge  
Result: Readily biodegradable.  
Biodegradation: 81 %  
Method: OECD Test Guideline 301F

### Bioaccumulative potential

#### Components:

##### **dimethyl phthalate:**

Bioaccumulation      :    Bioconcentration factor (BCF): 57  
Method: OECD Test Guideline 305

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Partition coefficient: n-octanol/water : log Pow: 1.54

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

Partition coefficient: n-octanol/water : log Pow: < 0.3 (25 °C)

### **hydrogen peroxide:**

Partition coefficient: n-octanol/water : log Pow: -1.57 (20 °C)  
Remarks: Information refers to the main component.  
Calculation

### **2-methylpentane-2,4-diol:**

Partition coefficient: n-octanol/water : log Pow: -0.14

### **Mobility in soil**

No data available

### **Other adverse effects**

#### **Product:**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life.

#### **Components:**

##### **dimethyl phthalate:**

Additional ecological information : No data available

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## 13. DISPOSAL CONSIDERATIONS

### **Disposal methods**

- Waste from residues : Dispose of wastes in an approved waste disposal facility.  
The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.
- Contaminated packaging : Dispose of in accordance with local regulations.  
Clean container with water.  
Dispose of contents/ container to an approved waste disposal plant.  
Empty remaining contents.  
Dispose of as unused product.

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Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

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### 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number : UN 3105  
Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID  
(METHYL ETHYL KETONE PEROXIDE(S))  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2

##### IATA-DGR

UN/ID No. : UN 3105  
Proper shipping name : Organic peroxide type D, liquid  
(Methyl ethyl ketone peroxide(s))  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : Organic Peroxides, Keep Away From Heat  
Packing instruction (cargo aircraft) : 570  
Packing instruction (passenger aircraft) : 570

##### IMDG-Code

UN number : UN 3105  
Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID  
(METHYL ETHYL KETONE PEROXIDE(S))  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2  
EmS Code : F-J, S-R  
Marine pollutant : no

#### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

#### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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### 15. REGULATORY INFORMATION

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

Gefahrgruppe nach DGUV 13 Vorschrift 13 (bisher BGV B4): Ib (German regulatory requirements)

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**The components of this product are reported in the following inventories:**

TCSI (TW)	:	On the inventory, or in compliance with the inventory
TSCA (US)	:	All substances listed as active on the TSCA inventory
AiIC (AU)	:	All components are listed on the inventory, regulatory obligations/restrictions apply
DSL (CA)	:	All components of this product are on the Canadian DSL
ENCS (JP)	:	On the inventory, or in compliance with the inventory
ISHL (JP)	:	On the inventory, or in compliance with the inventory
KECI (KR)	:	On the inventory, or in compliance with the inventory
PICCS (PH)	:	On the inventory, or in compliance with the inventory
IECSC (CN)	:	On the inventory, or in compliance with the inventory
TECI (TH)	:	On the inventory, or in compliance with the inventory

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### 16. OTHER INFORMATION

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#### Further information

Other information : This safety datasheet only contains information relating to safety and does not replace any product information or product specification.  
These safety instructions also apply to empty packaging which may still contain product residues.  
The hazards on the label also apply to residues in the container.

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/>

Date format : dd.mm.yyyy

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
IN OEL : India. Permissible levels of certain chemical substances in work environment.



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ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
ACGIH / C : Ceiling limit  
IN OEL / TWA : Time-Weighted Average Concentration (TWA) (8 hrs.)

AIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

IN / EN