SAFETY DATA SHEET

NOROX®KP-100

Version	Revision Date:	SDS Number:	Date of last issue: 18.02.2022
2.0	09.10.2023	600000000309	Date of first issue: 18.02.2022

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : NOROX®KP-100

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 : +44 1235 239671

E-mail address : contact@united-in.com

Recommended use of the chemical and restrictions on use

Recommended use : Hardener

2. HAZARDS IDENTIFICATION

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

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. 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	>= 35 - < 40
hydrogen peroxide	7722-84-1	>= 2.5 - < 3
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 difficulty.
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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray jet
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : 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 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.

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 material, 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 dis-

posal 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.

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 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/m3	ACGIH
2-Butanone, peroxide	1338-23-4	C	0.2 ppm	ACGIH
hydrogen peroxide	7722-84-1	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/m3	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

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 chemi-

cals 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	colourless, clear
Odour	:	mint-like
Odour Threshold	:	not determined
pH	:	No data available
Melting point/range	:	No data available

Boiling point/boiling range	:	Decomposition: Decomposes below the boiling point.
Flash point	:	> 80 °C Method: ISO 3679, 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	:	not determined
Relative density	:	not determined
Density	:	1.12 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	slightly soluble
Solubility in other solvents	:	soluble Solvent: Phthalates
Partition coefficient: n-octanol/water	:	Pow: 1.54 (25 °C)(for a component of this mixture)
Self-Accelerating decomposition temperature (SADT)	:	>= 60 °C 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	:	19 - 23 mPa.s
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.

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

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 1,317 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 3.99 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
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
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.

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

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
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

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

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

Components:

dimethyl phthalate:

Remarks	:	No data available

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
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 aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 5,410 mg/l
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

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

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

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.

15. REGULATORY INFORMATION

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

Gefahrgruppe nach TRGS 741: lb (German regulatory requirements)

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

16. OTHER INFORMATION

Revision Date	:	09.10.2023

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/

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / C	:	Ceiling limit

AIIC - 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; TECI - 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.

AE / EN