SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878

CUROX®I-300

Version	Revision Date:	SDS Number:	Date of last issue: 08.03.2023
4.2	04.03.2024	600000000276	Date of first issue: 05.04.2016

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

1.1 Product identifier

Trade name : CUROX®I-300

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

Use of the Sub-stance/Mixture : Curing chemical

1.3 Details of the supplier of the safety data sheet

Company : United Initiators GmbH
Dr.-Gustav-Adolph-Str. 3
82049 Pullach

Telephone : +49 / 89 / 74422 – 0

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

1.4 Emergency telephone number

+44 1235 239670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Organic peroxides, Type D	H242: Heating may cause a fire.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin corrosion, Sub-category 1C	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters air-

ways.

Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H226 Flammable liquid and vapour.
H242 Heating may cause a fire.
H302 + H332 Harmful if swallowed or if inhaled.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234 Keep only in original packaging.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
P391 Collect spillage.

Hazardous components which must be listed on the label:
Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon
2,2,4,6,6-pentamethylheptane (CAS-No. 13475-82-6)
Isobutyl methyl ketone (CAS-No. 108-10-1)
cyclohexyldimethylamine (CAS-No. 98-94-2)

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Organic Peroxide
Liquid mixture

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon	Not Assigned 942-932-9 01-2120103792-63-0000	Flam. Liq. 3; H226 Org. Perox. D; H242 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Asp. Tox. 1; H304 Aquatic Chronic 2; H411 --- Acute toxicity estimate Acute oral toxicity: 1,575 mg/kg	>= 45 - < 50

2,2,4,6,6-pentamethylheptane	13475-82-6 236-757-0 01-2119490725-29	Flam. Liq. 3; H226 Asp. Tox. 1; H304 Aquatic Chronic 4; H413 EUH066	>= 40 - < 45
Isobutyl methyl ketone	108-10-1 203-550-1 606-004-00-4 01-2119473980-30	Flam. Liq. 2; H225 Acute Tox. 4; H332 Eye Irrit. 2; H319 Carc. 2; H351 STOT SE 3; H336 (Central nervous system) EUH066 Acute toxicity estimate Acute inhalation toxicity (vapour): 11 mg/l	>= 7.5 - < 10
cyclohexyldimethylamine	98-94-2 202-715-5 01-2119533030-60	Flam. Liq. 3; H226 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 0.25 - < 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of 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.
No artificial respiration, mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus.

Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing
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. Contact a poison control center. Rinse mouth thoroughly with water. Keep respiratory tract clear. Do NOT induce vomiting. If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	sensitising effects
Risks	:	Harmful if swallowed or if inhaled. May be fatal if swallowed and enters airways. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing cancer.

Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

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 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.

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Specific extinguishing methods : 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.

Further information : 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : 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.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Never return spills in original containers for re-use.
Treat recovered material as described in the section "Disposal considerations".

6.2 Environmental precautions

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.

6.3 Methods and material for containment and cleaning up

Methods for 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 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.

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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

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 exposure - obtain special instructions before use.
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.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

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.

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Store in cool 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.

Advice on common storage : Keep away from combustible materials.
Keep away from strong acids, bases, heavy metal salts and other reducing substances.

Recommended storage temperature : < 25 °C

Further information on storage stability : Stable under recommended storage conditions.

7.3 Specific end use(s)

Specific use(s) : For further information, refer to the product technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Isobutyl methyl ketone	108-10-1	TWA	20 ppm 83 mg/m3	2000/39/EC
	Further information: Indicative			
		STEL	50 ppm 208 mg/m3	2000/39/EC
	Further information: Indicative			
		OELV - 8 hrs (TWA)	20 ppm 83 mg/m3	IE OEL
	Further information: Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body			
		OELV - 15 min (STEL)	50 ppm 208 mg/m3	IE OEL
	Further information: Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide	Workers	Inhalation	Long-term systemic effects	2.64 mg/m3

and methylisobutylke-ton				
	Workers	Inhalation	Acute systemic ef-fects	7.92 mg/m3
	Workers	Dermal	Long-term systemic effects	1.5 mg/kg bw/day
Isobutyl methyl ke-tone	Workers	Inhalation	Short-term exposure, Systemic effects, Local effects	208 mg/m3
	Workers	Inhalation	Long-term systemic effects, Local effects	83 mg/m3
	Workers	Skin contact	Long-term systemic effects	11.8 mg/kg bw/day
	Consumers	Inhalation	Short-term exposure, Systemic effects, Local effects	155.2 mg/m3
	Consumers	Inhalation	Long-term systemic effects, Local effects	14.7 mg/m3
	Consumers	Skin contact	Long-term systemic effects	4.2 mg/kg bw/day
cyclohexyldimethyla-mine	Workers	Inhalation	Long-term systemic effects	0.53 mg/m3
	Workers	Inhalation	Local effects	8.3 mg/m3
	Workers	Skin contact	Long-term systemic effects	0.6 mg/m3

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

Substance name	Environmental Compartment	Value
Reaction mass of 4-methylpentane-2,2-diyl dihydrop-eroxide,dioxybis-4-methylpentane-2,2-diyl dihydrop-eroxide and methylisobutylketon	Fresh water	0.00133 mg/l
	Marine water	0.00013 mg/l
	Fresh water sediment	0.591 mg/kg dry weight (d.w.)
	Marine sediment	0.0591 mg/kg dry weight (d.w.)
	Soil	0.118 mg/kg dry weight (d.w.)
	Sewage treatment plant	1.28 mg/l
Isobutyl methyl ketone	Fresh water	0.6 mg/l
	Marine water	0.06 mg/l
	Water	1.5 mg/l
	Sewage treatment plant	27.5 mg/l
	Fresh water sediment	8.27 mg/kg dry weight (d.w.)
	Marine sediment	0.83 mg/kg dry weight (d.w.)
	Soil	1.3 mg/kg dry

		weight (d.w.)
cyclohexyldimethylamine	Fresh water	0.0035 mg/l
	Marine water	0.00035 mg/l
	Intermittent use/release	0.035 mg/l
	Fresh water sediment	0.0369 mg/kg
	Marine water	0.00369 mg/kg
	Soil	0.0053 mg/kg
	Sewage treatment plant	20.6 mg/l

8.2 Exposure controls

Engineering measures
Minimize workplace exposure concentrations.

Personal protective equipment

Eye/face 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.

Equipment should conform to EN 166

Hand protection
- Material : Nitrile rubber
- Break through time : 30 min
- Glove thickness : 0.40 mm
- Directive : Equipment should conform to EN 374

- Material : butyl-rubber
- Break through time : 120 min
- Glove thickness : 0.70 mm
- Directive : Equipment should conform to EN 374

- 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.

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.

Respiratory protection	:	In the case of dust or aerosol formation use respirator with an approved filter.
Filter type	:	ABEK-filter
Protective measures	:	The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	colourless
Odour	:	characteristic
Odour Threshold	:	not determined
Melting point/range	:	< -25 °C
Boiling point/boiling range	:	Decomposition: Decomposes below the boiling point.
Flammability	:	Not applicable
Upper explosion limit / Upper flammability limit	:	Upper explosion limit 4 %(V) (for a component of this mixture)

Lower explosion limit / Lower flammability limit	:	Lower explosion limit 0.5 %(V) (for a component of this mixture)
Flash point	:	40 °C Method: ISO 3679, closed cup
Auto-ignition temperature	:	not determined
Self-Accelerating decomposition temperature (SADT)	:	50 °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.
pH	:	No data available
Viscosity		
Viscosity, dynamic	:	5 mPa.s (20 °C)
Viscosity, kinematic	:	not determined
Solubility(ies)		
Water solubility	:	practically insoluble
Solubility in other solvents	:	Solvent: Alcohol Description: completely miscible Solvent: Phthalates Description: completely miscible
Partition coefficient: n-octanol/water	:	Not applicable
Vapour pressure	:	1 hPa (20 °C) (for a component of this mixture)
Relative density	:	not determined
Density	:	0.89 g/cm3 (20 °C)
Relative vapour density	:	not determined

9.2 Other information

Explosives	:	Not explosive In use, may form flammable/explosive vapour-air mixture.
Oxidizing properties	:	The substance or mixture is not classified as oxidizing. Organic peroxide
Flammability (liquids)	:	Flammable liquid and vapour., Organic peroxide
Self-ignition	:	The substance or mixture is not classified as pyrophoric.
Self-heating substances	:	Not applicable The substance or mixture is not classified as self heating.
Substances and mixtures, which in contact with water, emit flammable gases	:	The substance or mixture does not emit flammable gases in contact with water.
Desensitised explosives	:	Not applicable
Refractive index	:	1.43 at 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.
Heating may cause a fire or explosion.

10.2 Chemical stability

Stable under recommended storage conditions.
No decomposition if stored normally.

10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Protect from contamination.
Contact with incompatible substances can cause decomposition at or below SADT.
Heat, flames and sparks.
Avoid confinement.

10.5 Incompatible materials

Materials to avoid : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

10.6 Hazardous decomposition products

Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : LD50 (Rat): 1,575 mg/kg
Method: OECD Test Guideline 401
Remarks: Information given is based on tests on the mixture itself.

Acute inhalation toxicity : LC50 (Rat): 1.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The component/mixture is moderately toxic after short term inhalation.
Remarks: Information given is based on tests on the mixture itself.

Acute dermal toxicity : LD50 (Rat): > 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.
Information given is based on tests on the mixture itself.

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Acute oral toxicity : LD50 (Rat): 1,575 mg/kg
Method: OECD Test Guideline 401

Acute toxicity estimate: 1,575 mg/kg
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat): 1.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rat): > 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.

2,2,4,6,6-pentamethylheptane:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402

Isobutyl methyl ketone:

Acute oral toxicity : LD50 (Rat): 2,080 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute toxicity estimate: 11 mg/l
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : LD50 (Rat): > 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.

cyclohexyldimethylamine:

Acute oral toxicity : LD50 (Rat): 272 - 289 mg/kg
Assessment: The component/mixture is toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): > 1.7 - 5.8 mg/l
Exposure time: 6 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rat): 380 mg/kg
Method: OECD Test Guideline 402
Assessment: The component/mixture is toxic after single contact with skin.

Skin corrosion/irritation

Causes severe burns.

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Corrosive after 1 to 4 hours of exposure
Remarks : Information given is based on tests on the mixture itself.

Remarks : Extremely corrosive and destructive to tissue.

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Corrosive after 1 to 4 hours of exposure

2,2,4,6,6-pentamethylheptane:

Result : Repeated exposure may cause skin dryness or cracking.

Isobutyl methyl ketone:

Species : Rabbit
Exposure time : 72 h
Method : OECD Test Guideline 404

Result : No skin irritation

Result : Repeated exposure may cause skin dryness or cracking.

cyclohexyldimethylamine:

Result : Causes burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Risk of serious damage to eyes.
Remarks : Information given is based on tests on the mixture itself.

Remarks : May cause irreversible eye damage.

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Risk of serious damage to eyes.

2,2,4,6,6-pentamethylheptane:

Result : No eye irritation

Isobutyl methyl ketone:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Mild eye irritation

cyclohexyldimethylamine:

Result : Corrosive

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Test Type : Maximisation Test

Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.
Remarks	:	Information given is based on tests on the mixture itself.
Remarks	:	Causes sensitisation.

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.

Isobutyl methyl ketone:

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

cyclohexyldimethylamine:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Not classified due to lack of data.

Product:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Test system: Salmonella typhimurium
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Method: OECD Test Guideline 473
Result: positive

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Test system: Salmonella typhimurium
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Method: OECD Test Guideline 473
Result: positive

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes

2,2,4,6,6-pentamethylheptane:

Germ cell mutagenicity- Assessment : No known effect.

Isobutyl methyl ketone:

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

Method: OECD Test Guideline 476
Result: Equivocal

Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo	:	Species: Mouse Application Route: Intraperitoneal Method: OECD Test Guideline 474 Result: negative

cyclohexyldimethylamine:

Germ cell mutagenicity- Assessment	:	Animal testing did not show any mutagenic effects.

Carcinogenicity

Suspected of causing cancer.

Product:

Remarks	:	This information is not available.

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Remarks	:	This information is not available.

2,2,4,6,6-pentamethylheptane:

Carcinogenicity - Assessment	:	No known effect.

Isobutyl methyl ketone:

Species	:	Mouse
Application Route	:	inhalation (vapour)
Exposure time	:	2 Years
NOAEL	:	1.84 mg/l
Method	:	OECD Test Guideline 451
Result	:	Suspected of causing cancer.
Target Organs	:	Liver

Species	:	Rat
Application Route	:	inhalation (vapour)
Exposure time	:	2 Years
NOAEL	:	1.84 mg/l
Method	:	OECD Test Guideline 453
Result	:	Suspected of causing cancer.
Target Organs	:	Kidney

Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in animal studies

cyclohexyldimethylamine:

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

Reproductive toxicity

Not classified due to lack of data.

Product:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
General Toxicity - Parent: NOAEL: 200 mg/kg body weight
General Toxicity F1: NOAEL: 600 mg/kg body weight
Fertility: NOAEL: 600 mg/kg body weight
Method: OECD Test Guideline 422
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Pre-natal
Species: Rat, females
Application Route: Oral
General Toxicity Maternal: NOAEL: 65 mg/kg body weight
Developmental Toxicity: NOAEL: 200 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes
Remarks: Based on data from similar materials

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
General Toxicity - Parent: NOAEL: 200 mg/kg body weight
General Toxicity F1: NOAEL: 600 mg/kg body weight
Fertility: NOAEL: 600 mg/kg body weight
Method: OECD Test Guideline 422
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Pre-natal
Species: Rat, females
Application Route: Oral
General Toxicity Maternal: NOAEL: 65 mg/kg body weight
Developmental Toxicity: NOAEL: 200 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes
Remarks: Based on data from similar materials

2,2,4,6,6-pentamethylheptane:

Reproductive toxicity - Assessment : No known effect.

Isobutyl methyl ketone:

Effects on fertility	:	Test Type: Multi-generation study Species: Rat Application Route: inhalation (vapour) General Toxicity - Parent: NOAEL: 4.1 mg/l General Toxicity F1: NOAEL: 4.1 mg/l Fertility: NOAEL: 8.1 mg/l Method: OECD Test Guideline 416
Effects on foetal development	:	Species: Rat Application Route: Inhalation General Toxicity Maternal: NOEC: 4.1 ppm Teratogenicity: NOEC: 4.1 ppm Method: OECD Test Guideline 414 Result: No teratogenic effects

cyclohexyldimethylamine:

Reproductive toxicity - Assessment	:	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

STOT - single exposure

Not classified due to lack of data.

Components:

Isobutyl methyl ketone:

Target Organs	:	Central nervous system
Assessment	:	May cause drowsiness or dizziness.

cyclohexyldimethylamine:

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

STOT - repeated exposure

Not classified due to lack of data.

Components:

Isobutyl methyl ketone:

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

cyclohexyldimethylamine:

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

Repeated dose toxicity

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Species	:	Rat, male and female
NOAEL	:	150 mg/kg bw/day
Exposure time	:	90d
Method	:	OECD Test Guideline 408
GLP	:	yes
Remarks	:	Based on data from similar materials

Isobutyl methyl ketone:

Species	:	Rat
	:	50 mg/kg
NOAEL	:	250 mg/kg
LOAEL	:	1,000 mg/kg
Application Route	:	oral (gavage)
Exposure time	:	13 w
Method	:	OECD Test Guideline 408

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

May be fatal if swallowed and enters airways.

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

May be fatal if swallowed and enters airways.

2,2,4,6,6-pentamethylheptane:

May be fatal if swallowed and enters airways.

Isobutyl methyl ketone:

Not classified due to data which are conclusive although insufficient for classification.

cyclohexyldimethylamine:

Not classified due to data which are conclusive although insufficient for classification.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

Product:

Remarks : Solvents may degrease the skin.

Components:

2,2,4,6,6-pentamethylheptane:

Remarks : May cause headache and dizziness.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1.89 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Information given is based on tests on the mixture itself.

NOEC (Danio rerio (zebra fish)): 1.38 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Information given is based on tests on the mixture itself.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 4.48 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Information given is based on tests on the mixture itself.

NOEC (Daphnia magna (Water flea)): 2 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Information given is based on tests on the mixture itself.

Toxicity to algae/aquatic plants	:	EC50 (Raphidocelis subcapitata (freshwater green alga)): 1.33 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Information given is based on tests on the mixture itself. NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.94 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Information given is based on tests on the mixture itself.
Toxicity to microorganisms	:	EC10 (Bacteria): 12.8 mg/l Test Type: Respiration inhibition of activated sludge Method: OECD Test Guideline 209 Remarks: Information given is based on tests on the mixture itself.

Ecotoxicology Assessment

Acute aquatic toxicity	:	Toxic to aquatic life.
Chronic aquatic toxicity	:	Toxic to aquatic life with long lasting effects.

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 1.89 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 NOEC (Danio rerio (zebra fish)): 1.38 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): 4.48 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 NOEC (Daphnia magna (Water flea)): 2 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Raphidocelis subcapitata (freshwater green alga)): 1.33 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.94 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC10 (Bacteria): 12.8 mg/l
Test Type: Respiration inhibition of activated sludge
Method: OECD Test Guideline 209

2,2,4,6,6-pentamethylheptane:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): > 0.04 mg/l
Exposure time: 48 h
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants : IC50 (algae): > 0.04 mg/l
Exposure time: 72 h
Remarks: Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

Isobutyl methyl ketone:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 179 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 200 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Lemna gibba (gibbous duckweed)): > 146 mg/l
End point: Growth rate
Method: OECD Test Guideline 221

EC10 (Lemna gibba (gibbous duckweed)): > 146 mg/l
Method: OECD Test Guideline 221

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 275 mg/l
Exposure time: 16 h
Method: DIN 38 412 Part 8

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 30 - 35 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

Method: OECD Test Guideline 211

cyclohexyldimethylamine:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 31.58 mg/l
Exposure time: 96 h
Test Type: static test
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 75 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 3.5 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

EC10 (Pseudokirchneriella subcapitata (green algae)): 0.6 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC10 (Pseudomonas putida): 137 mg/l
Exposure time: 17 h

12.2 Persistence and degradability

Product:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301D
Remarks: Information given is based on data on the components and the ecotoxicology of similar products.

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

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

2,2,4,6,6-pentamethylheptane:

Biodegradability : Result: Not readily biodegradable.

Isobutyl methyl ketone:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

cyclohexyldimethylamine:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

Reaction mass of 4-methylpentane-2,2-diyl dihydroperoxide,dioxybis-4-methylpentane-2,2-diyl dihydroperoxide and methylisobutylketon:

Partition coefficient: n-octanol/water : log Pow: 4.2 (20 °C)
Method: OECD Test Guideline 117

2,2,4,6,6-pentamethylheptane:

Partition coefficient: n-octanol/water : log Pow: 5.94 - 6.16 (20 °C)
Remarks: The value is calculated

Isobutyl methyl ketone:

Partition coefficient: n-octanol/water : log Pow: 1.9

cyclohexyldimethylamine:

Bioaccumulation : Bioconcentration factor (BCF): 35.66
Remarks: Calculation

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 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 with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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.

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 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.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : UN 3105

RID : UN 3105

IMDG : UN 3105

IATA : UN 3105

14.2 UN proper shipping name

ADR : ORGANIC PEROXIDE TYPE D, LIQUID
(METHYL ISOBUTYL KETONE PEROXIDE(S))

RID	:	ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ISOBUTYL KETONE PEROXIDE(S))
IMDG	:	ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ISOBUTYL KETONE PEROXIDE(S))
IATA	:	Organic peroxide type D, liquid (Methyl isobutyl ketone peroxide(s))

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADR	:	5.2	
RID	:	5.2	
IMDG	:	5.2	
IATA	:	5.2	HEAT

14.4 Packing group

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 (Cargo)

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

IATA (Passenger)

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

14.5 Environmental hazards

ADR

Environmentally hazardous	:	yes

RID

Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 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.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 75, 3 If you intend to use this product as tattoo ink, please contact your vendor.
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 (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the	P6b	SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC

control of major-accident hazards involving dangerous substances.		PEROXIDES
	E2	ENVIRONMENTAL HAZARDS

Other regulations:

Gefahrgruppe nach TRGS 741: lb (German regulatory requirements)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

TCSI (TW)	:	On the inventory, or in compliance with the inventory
DSL (CA)	:	All components of this product are on the Canadian DSL
PICCS (PH)	:	On the inventory, or in compliance with the inventory
IECSC (CN)	:	On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.
For further information see eSDS.

SECTION 16: Other information

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/

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment
Org. Perox. D	H242	Based on product data or assessment
Acute Tox. 4	H302	Based on product data or assessment
Acute Tox. 4	H332	Based on product data or assessment
Skin Corr. 1C	H314	Based on product data or assessment
Eye Dam. 1	H318	Based on product data or assessment
Skin Sens. 1	H317	Based on product data or assessment
Carc. 2	H351	Calculation method
Asp. Tox. 1	H304	Based on product data or assessment
Aquatic Chronic 2	H411	Based on product data or assessment

Full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H226	:	Flammable liquid and vapour.
H242	:	Heating may cause a fire.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H311	:	Toxic in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H336	:	May cause drowsiness or dizziness.
H351	:	Suspected of causing cancer.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.
H413	:	May cause long lasting harmful effects to aquatic life.
EUH066	:	Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Org. Perox.	:	Organic peroxides
Skin Corr.	:	Skin corrosion
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure

2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
IE OEL	:	List of Chemical Agents and Carcinogens with Occupational Exposure Limit Values - Code of Practice, Schedule 1 and 2
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
IE OEL / OELV - 8 hrs (TWA)	:	Occupational exposure limit value (8-hour reference period)
IE OEL / OELV - 15 min (STEL)	:	Occupational exposure limit value (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Disclaimer

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.

IE / EN