SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

CUROX®M-370

Version	Revision Date:	SDS Number:	Date of last issue: 10.10.2023
2.1	29.11.2024	600000000359	Date of first issue: 01.12.2022

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

1.1 Product identifier

Trade name : CUROX®M-370

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) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Organic peroxides, Type D	H242: Heating may cause a fire.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin corrosion, Sub-category 1B	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.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H242	Heating may cause a fire.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H361	Suspected of damaging fertility or the unborn child.

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.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

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.

Hazardous components which must be listed on the label:

2-Butanone, peroxide (CAS-No. 1338-23-4)
2,4-Pentanedione, peroxide (CAS-No. 37187-22-7)
Diacetone alcohol (CAS-No. 123-42-2)

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.

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)
2-Butanone, peroxide	1338-23-4 700-954-4 01-2119514691-43-0000	Org. Perox. D; H242 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318	>= 25 - < 30
2,4-Pentanedione, peroxide	37187-22-7 237-438-9 01-2119965139-28-0005	Org. Perox. D; H242 Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 7.5 - < 10
Diacetone alcohol	123-42-2 204-626-7 603-016-00-1 01-2119473975-21	Eye Irrit. 2; H319 Repr. 2; H361 STOT SE 3; H335 (Respiratory system) ——————— specific concentration limit Eye Irrit. 2; H319 >= 10 %	>= 7.5 - < 10
hydrogen peroxide	7722-84-1 231-765-0 008-003-00-9 01-2119485845-22	Ox. Liq. 1; H271 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3;	>= 1 - < 2.5

		H412 _____ specific concentration limit Ox. Liq. 1; H271 >= 70 % Ox. Liq. 2; H272 50 - < 70 % Skin Corr. 1A; H314 >= 70 % Skin Corr. 1B; H314 50 - < 70 % Skin Irrit. 2; H315 35 - < 50 % Eye Dam. 1; H318 8 - < 50 % Eye Irrit. 2; H319 5 - < 8 % STOT SE 3; H335 >= 35 % Aquatic Chronic 3; H412 >= 63 %	
2-methylpentane-2,4-diol	107-41-5 203-489-0 603-053-00-3 01-2119539582-35	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Repr. 2; H361d	>= 0.1 - < 1
Acetylacetone	123-54-6 204-634-0 606-029-00-0 01-2119458968-15	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 3; H331 Acute Tox. 3; H311	>= 0.1 - < 1
Substances with a workplace exposure limit :			
dimethyl phthalate	131-11-3 205-011-6 01-2119437229-36		>= 45 - < 50

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.

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.
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.

May cause an allergic skin reaction.
Causes serious eye damage.
Suspected of damaging fertility or the unborn child.
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. 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. 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.

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 : < 30 °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
dimethyl phthalate	131-11-3	TWA	5 mg/m3	GB EH40
		STEL	10 mg/m3	GB EH40
2-Butanone, peroxide	1338-23-4	STEL	0.2 ppm 1.5 mg/m3	GB EH40
Diacetone alcohol	123-42-2	TWA	50 ppm 241 mg/m3	GB EH40
		STEL	75 ppm 362 mg/m3	GB EH40
hydrogen peroxide	7722-84-1	TWA	1 ppm 1.4 mg/m3	GB EH40
		STEL	2 ppm 2.8 mg/m3	GB EH40
2-methylpentane-2,4-diol	107-41-5	TWA	25 ppm 123 mg/m3	GB EH40
		STEL	25 ppm 123 mg/m3	GB EH40

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
dimethyl phthalate	Workers	Inhalation	Long-term systemic effects	66.1 mg/m3
	Workers	Skin contact	Long-term systemic	135 mg/kg

			effects	bw/day
2-Butanone, peroxide	Workers	Inhalation	Long-term systemic effects	2.35 mg/m3
	Workers	Skin contact	Long-term systemic effects	1.33 mg/kg bw/day
	Workers	Inhalation	Acute systemic effects	7.05 mg/m3
2,4-Pentanedione, peroxide	Workers	Inhalation	Long-term systemic effects	11.75 mg/m3
	Workers	Skin contact	Long-term systemic effects	13.33 mg/kg bw/day
Diacetone alcohol	Workers	Inhalation	Acute local effects	240 mg/m3
	Workers	Skin contact	Long-term systemic effects	9.4 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	66.4 mg/m3
	Workers	Inhalation	Long-term local effects	66.4 mg/m3
hydrogen peroxide	Workers	Inhalation	Acute local effects	3 mg/m3
	Workers	Inhalation	Long-term local effects	1.4 mg/m3
2-methylpentane-2,4-diol	Workers	Inhalation	Long-term systemic effects	44.43 mg/m3
	Workers	Inhalation	Long-term local effects	49 mg/m3
	Workers	Inhalation	Acute local effects	98 mg/m3
	Workers	Skin contact	Long-term systemic effects	63 mg/kg bw/day
Acetylacetone	Workers	Inhalation		84 mg/m3
	Workers	Skin contact		12 mg/kg bw/day

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
dimethyl phthalate	Fresh water	0.192 mg/l
	Marine water	0.0192 mg/l
	Sewage treatment plant	4 mg/l
	Fresh water sediment	1.3 mg/kg dry weight (d.w.)
	Soil	3.16 mg/kg dry weight (d.w.)
	Marine sediment	0.13 mg/kg dry weight (d.w.)
2-Butanone, peroxide	Fresh water	0.0056 mg/l
	Marine water	0.00056 mg/l
	Intermittent use/release	0.056 mg/l
	Sewage treatment plant	1.2 mg/l
	Fresh water sediment	0.0876 mg/kg
	Marine sediment	0.00876 mg/kg
	Soil	0.0142 mg/kg

2,4-Pentanedione, peroxide	Fresh water	0.054 mg/l
	Marine water	0.0054 mg/l
	Intermittent use/release	0.054 mg/l
	Fresh water sediment	0.48 mg/kg
	Marine sediment	0.048 mg/kg
	Sewage treatment plant	6.2 mg/l
	Soil	0.065 mg/kg
Diacetone alcohol	Fresh water	2 mg/l
	Marine water	0.2 mg/l
	Sewage treatment plant	82 mg/l
	Fresh water sediment	9.06 mg/kg dry weight (d.w.)
	Marine sediment	0.91 mg/kg dry weight (d.w.)
	Soil	0.63 mg/kg dry weight (d.w.)
hydrogen peroxide	Sewage treatment plant	4.66 mg/l
	Fresh water	0.0126 mg/l
	Marine sediment	0.047 mg/l
	Fresh water sediment	0.047 mg/l
	Marine water	0.0126 mg/l
	Soil	0.0023 mg/l
2-methylpentane-2,4-diol	Fresh water	0.429 mg/l
	Marine water	0.043 mg/l
	Intermittent use/release	4.29 mg/l
	Sewage treatment plant	20 mg/l
	Fresh water sediment	1.59 mg/kg dry weight (d.w.)
	Marine sediment	0.159 mg/kg dry weight (d.w.)
	Soil	0.066 mg/kg dry weight (d.w.)
	Secondary poisoning	
	Remarks:No bioaccumulation is to be expected (log Pow <= 4).	
Acetylacetone	Fresh water	0.026 mg/l
	Marine water	0.0026 mg/l
	Sewage treatment plant	1.32 mg/l
	Fresh water sediment	0.155 mg/kg wet weight
	Marine sediment	0.0155 mg/kg wet weight
	Soil	0.01582 mg/kg wet weight

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.
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 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

Appearance	:	liquid
Colour	:	colourless, clear
Odour	:	characteristic
Odour Threshold	:	not determined
pH	:	Not applicable
Melting point/ range	:	not determined
Boiling point/boiling range	:	Decomposition: Decomposes below the boiling point.
Flash point	:	> 65 °C Method: closed cup
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	Upper explosion limit not determined
Lower explosion limit / Lower flammability limit	:	Lower explosion limit not determined
Vapour pressure	:	not determined
Relative vapour density	:	> 1
Relative density	:	not determined
Density	:	1.13 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	immiscible
Solubility in other solvents	:	Solvent: Esters Description: soluble Solvent: Phthalates Description: soluble
Partition coefficient: n-octanol/water	:	Not applicable

Auto-ignition temperature	:	not determined
Viscosity		
Viscosity, dynamic	:	26 - 29 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

9.2 Other information

Self-Accelerating decomposition temperature (SADT)	:	60 °C SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.
Flammability (liquids)	:	Flammable liquid, Organic peroxide
Self-heating substances	:	The substance or mixture is not classified as self heating.
Self-ignition	:	The substance or mixture is not classified as pyrophoric.

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 toxicological effects

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : Acute toxicity estimate: 1,866 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

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

2,4-Pentanedione, peroxide:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male): > 13.1 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: Expert judgement
Assessment: The substance or mixture has no acute inhalation toxicity

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

Diacetone alcohol:

Acute oral toxicity : LD50 (Rat): 3,002 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC0 (Rat, male and female): >= 7.6 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: No mortality observed at this dose.

Acute dermal toxicity : LD0 (Rat): > 1,875 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: No mortality observed at this dose.

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.

Acetylacetone:

Acute oral toxicity	:	LD50 (Rat): 570 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 5.1 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rabbit, female): 790 mg/kg

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

Skin corrosion/irritation

Causes severe burns.

Product:

Remarks	:	Extremely corrosive and destructive to tissue.

Components:

2-Butanone, peroxide:

Species : Rabbit
Result : Causes burns.

2,4-Pentanedione, peroxide:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Diacetone alcohol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

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

Acetylacetone:

Species : Rabbit
Result : No skin irritation

dimethyl phthalate:

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

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks : May cause irreversible eye damage.

Components:

2-Butanone, peroxide:

Result : Irreversible effects on the eye

2,4-Pentanedione, peroxide:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Eye irritation

Diacetone alcohol:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irritation to eyes, reversing within 21 days

hydrogen peroxide:

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

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

Acetylacetone:

Species	:	Rabbit
Result	:	No eye irritation

dimethyl phthalate:

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

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Remarks	:	Causes sensitisation.

Components:

2-Butanone, peroxide:

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

Assessment : Harmful if swallowed., Harmful if inhaled.

2,4-Pentanedione, peroxide:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Probability or evidence of skin sensitisation in humans

Remarks : Causes sensitisation.

Diacetone alcohol:

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

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.

Acetylacetone:

Exposure routes : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : Does not cause skin sensitisation.

dimethyl phthalate:

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

Germ cell mutagenicity

Not classified due to lack of data.

Components:

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

2,4-Pentanedione, peroxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: positive

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

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Diacetone alcohol:

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

Method: OECD Test Guideline 471
Result: negative

Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Remarks: Not classified due to data which are conclusive although insufficient for classification.

Germ cell mutagenicity- Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

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

Acetylacetone:

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

Method: OECD Test Guideline 479
Result: positive

Method: OECD Test Guideline 473
Result: positive

Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Method: OECD Test Guideline 474
Result: positive

Method: OECD Test Guideline 483
Result: negative

Method: OECD Test Guideline 475

Result: negative

Method: OECD Test Guideline 478
Result: Equivocal

Test Type: DNA Repair
Species: Rat
Application Route: Oral
Result: negative

Species: Rat
Application Route: inhalation (vapour)
Method: OPPTS 870.5395
Result: negative

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

Carcinogenicity

Not classified due to lack of data.

Components:

2-Butanone, peroxide:

Remarks : This information is not available.

2,4-Pentanedione, peroxide:

Remarks : This information is not available.

Diacetone alcohol:

Carcinogenicity - Assess- : Weight of evidence does not support classification as a car-

ment | cinogen

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.

dimethyl phthalate:

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

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Components:

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

2,4-Pentanedione, peroxide:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Diacetone alcohol:

Effects on fertility : Species: Rat
Application Route: oral (gavage)
General Toxicity - Parent: NOAEL: 300 mg/kg body weight
General Toxicity F1: NOAEL: 300 mg/kg body weight
Method: OECD Test Guideline 422

Effects on foetal development : Species: Rat
Application Route: inhalation (vapour)
General Toxicity Maternal: NOAEL: 4.106

Embryo-foetal toxicity: NOAEL: 12,292
Method: OECD Test Guideline 414

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

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.

Acetylacetone:

Effects on foetal development : Species: Rat
Application Route: inhalation (vapour)
Duration of Single Treatment: 13 d
General Toxicity Maternal: NOAEC: 200
Teratogenicity: NOAEC Parent: 400
Embryo-foetal toxicity: NOAEC F1: 50
Method: OECD Test Guideline 414

Species: Rat
Application Route: inhalation (vapour)
Duration of Single Treatment: 13 d
General Toxicity Maternal: LOAEC: 400
Embryo-foetal toxicity: LOAEC F1: 200
Method: OECD Test Guideline 414

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

STOT - single exposure

Not classified due to lack of data.

Components:

Diacetone alcohol:

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

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 due to lack of data.

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:

2-Butanone, peroxide:

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

Diacetone alcohol:

Species	:	Rat
NOAEL	:	1.04 mg/l
LOAEL	:	4.685 mg/l
Application Route	:	inhalation (vapour)
Exposure time	:	6 w

Method	:	OECD Test Guideline 412
Species	:	Rat
NOAEL	:	100 mg/kg
Application Route	:	oral (gavage)
Method	:	OECD Test Guideline 422

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

Acetylacetone:

Species	:	Rat
NOAEL	:	200 mg/kg
LOAEL	:	805 mg/kg
Application Route	:	inhalation (vapour)
Exposure time	:	9 d
Species	:	Rat
NOAEL	:	100 mg/kg
Application Route	:	inhalation (vapour)
Exposure time	:	90 d
Method	:	OECD Test Guideline 413
Species	:	Rabbit
NOAEL	:	244 mg/kg
LOAEL	:	975 mg/kg
Application Route	:	Dermal
Exposure time	:	9 d

dimethyl phthalate:

Species	:	Rat

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

Aspiration toxicity

Not classified due to lack of data.

Components:

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.

Acetylacetone:

No aspiration toxicity classification

dimethyl phthalate:

No aspiration toxicity classification

Further information

Product:

Remarks	:	No data available

Components:

Acetylacetone:

Remarks	:	Solvents may degrease the skin.

dimethyl phthalate:

Remarks	:	No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

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

2,4-Pentanedione, peroxide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 67.6 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7.05 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 5.36 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : 614 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Diacetone alcohol:

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EbC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 1,000 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

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

Acetylacetone:

Toxicity to fish : LC50 (Fish): 104 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 25.9 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 83.22 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 3.2 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : 107.6 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

EC10 : 13.2 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 34 d
Species: Pimephales promelas (fathead minnow)
Method: OECD Test Guideline 210

LOEC: 22 mg/l
Exposure time: 34 d
Species: Pimephales promelas (fathead minnow)
Method: OECD Test Guideline 210

Toxicity to daphnia and other : NOEC: 18 mg/l

aquatic invertebrates (Chronic toxicity)		Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

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)

12.2 Persistence and degradability

Components:

2-Butanone, peroxide:

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

2,4-Pentanedione, peroxide:

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

Diacetone alcohol:

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

hydrogen peroxide:

Biodegradability : Result: Readily biodegradable.

2-methylpentane-2,4-diol:

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

Acetylacetone:

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

dimethyl phthalate:

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

12.3 Bioaccumulative potential

Components:

2-Butanone, peroxide:

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

2,4-Pentanedione, peroxide:

Partition coefficient: n-octanol/water : log Pow: 1.1 (25 °C)
Method: OECD Test Guideline 117

Diacetone alcohol:

Partition coefficient: n-octanol/water : log Pow: -0.09 (20 °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

Acetylacetone:

Bioaccumulation : Bioconcentration factor (BCF): 3.16
Remarks: Calculation

Partition coefficient: n-octanol/water : log Pow: 0.68 (40 °C)

dimethyl phthalate:

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

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

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 Other adverse effects

Product:

Endocrine disrupting potential : 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.

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

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.

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

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 ETHYL KETONE PEROXIDE(S), ACETYL ACETONE PEROXIDE)

RID : ORGANIC PEROXIDE TYPE D, LIQUID
(METHYL ETHYL KETONE PEROXIDE(S), ACETYL ACETONE PEROXIDE)

IMDG : ORGANIC PEROXIDE TYPE D, LIQUID
(METHYL ETHYL KETONE PEROXIDE(S), ACETYL ACETONE PEROXIDE)

IATA : Organic peroxide type D, liquid
(Methyl ethyl ketone peroxide(s), Acetyl acetone peroxide)

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	:	no

RID

Environmentally hazardous	:	no

IMDG

Marine pollutant	:	no

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 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Conditions of restriction for the following entries should be considered: Number on list 3
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
Regulation (EC) on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors	:	hydrogen peroxide
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable
GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation	:	Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH)	P6b	SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

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

15.2 Chemical safety assessment
This information is not available.

SECTION 16: Other information

Full text of H-Statements

H226	:	Flammable liquid and vapour.
H242	:	Heating may cause a fire.
H271	:	May cause fire or explosion; strong oxidizer.
H302	:	Harmful if swallowed.
H311	:	Toxic in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
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.
H335	:	May cause respiratory irritation.
H361	:	Suspected of damaging fertility or the unborn child.
H361d	:	Suspected of damaging the unborn child.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

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

GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

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; 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

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	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

CUROX®M-370

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Sheet cy, http://echa.europa.eu/

Classification of the mixture:		**Classification procedure:**
Org. Perox. D	H242	Based on product data or assessment
Acute Tox. 4	H302	Calculation method
Skin Corr. 1B	H314	Calculation method
Eye Dam. 1	H318	Calculation method
Skin Sens. 1	H317	Calculation method
Repr. 2	H361	Calculation method

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