SAFETY DATA SHEET

CUROX®M-340

Version	Revision Date:	SDS Number:	Date of last issue: 10.08.2021
4.0	02.06.2023	600000000413	Date of first issue: 18.11.2016

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CUROX®M-340

Manufacturer or supplier's details

Company : United Initiators Pty Ltd

Address : 20-22 McPherson Street
Banksmeadow NSW 2019 Australia

Telephone : +61 2 9188 3690 (Monday–Friday office hours only)

Emergency telephone number : +49 89 744220 (24 hours specialist advise)

E-mail address : cs-initiators.au@united-in.com

Recommended use of the chemical and restrictions on use

Recommended use : Curing chemical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Organic peroxides : Type D

Acute toxicity (Oral) : Category 4

Skin corrosion/irritation : Sub-category 1B

Serious eye damage/eye irritation : Category 1

Skin sensitisation : Category 1

Short-term (acute) aquatic hazard : Category 2

GHS label elements

Hazard pictograms :

Signal word	:	Danger
Hazard statements	:	H226 Flammable liquid and vapour. 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. H401 Toxic to aquatic life.
Precautionary statements	:	**Prevention:** P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P234 Keep only in original packaging. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P261 Avoid breathing mist or vapours. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. **Response:** P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. 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. P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P362 + P364 Take off contaminated clothing and wash it before reuse. P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish. **Storage:** P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.
P410 Protect from sunlight.
P411 Store at temperatures not exceeding < 30 °C/ < 86 °F.
P420 Store separately.

Disposal:

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

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Organic Peroxide
Liquid mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
dimethyl phthalate	131-11-3	>= 30 -< 35
2-Butanone, peroxide	1338-23-4	>= 25 -< 30
2,4-Pentanedione, peroxide	37187-22-7	>= 7.5 -< 10
Diacetone alcohol	123-42-2	>= 7.5 -< 10
Butanone	78-93-3	>= 1 -< 5
Hydrogen peroxide	7722-84-1	>= 1 -< 2.5
Acetylacetone	123-54-6	>= 0.25 -< 1

SECTION 4. FIRST AID MEASURES

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

If inhaled : Administer oxygen if breathing is difficult or cyanosis is observed.
Call a physician immediately.
If breathed in, move person into fresh air.
If not breathing, give artificial respiration.
Respiratory tract burning possible if aerosols are inhaled.
Call a physician or poison control centre immediately.

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

SECTION 5. FIREFIGHTING MEASURES

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

Specific hazards during 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.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use a water spray to cool fully closed containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not use a solid water stream as it may scatter and spread fire. Remove undamaged containers from fire area if it is safe to do so. Use water spray to cool unopened containers.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.
Hazchem Code	:	2WE

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Follow safe handling advice and personal protective equipment recommendations. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Use personal protective equipment. 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".

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contact with incompatible substances can cause decomposition at or below SADT. Clear spills immediately. Suppress (knock down) gases/vapours/mists with a water spray jet. To clean the floor and all objects contaminated by this material, use plenty of water. Soak up with inert absorbent material. Isolate waste and do not reuse. Non-sparking tools should be used. Local or national regulations may apply to releases and 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.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Advice on protection against fire and explosion	:	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from heat and sources of ignition. Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition. Keep away from combustible material. Do not spray on a naked flame or any incandescent material.
Advice on safe handling	:	Open drum carefully as content may be under pressure. Protect from contamination. Do not swallow. Do not breathe vapours/dust. Avoid 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 ap-

plication area.
Wash thoroughly after handling.
For personal protection see section 8.

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.

Conditions for safe storage : 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.

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

Recommended storage temperature : < 30 °C

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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
dimethyl phthalate	131-11-3	TWA	5 mg/m3	AU OEL
		TWA	5 mg/m3	ACGIH
2-Butanone, peroxide	1338-23-4	Peak limit	0.2 ppm 1.5 mg/m3	AU OEL
		C	0.2 ppm	ACGIH
Diacetone alcohol	123-42-2	TWA	50 ppm 238 mg/m3	AU OEL
		TWA	50 ppm	ACGIH
Butanone	78-93-3	STEL	300 ppm 890 mg/m3	AU OEL

		TWA	150 ppm 445 mg/m3	AU OEL
		TWA	200 ppm	ACGIH
		STEL	300 ppm	ACGIH
Hydrogen peroxide	7722-84-1	TWA	1 ppm 1.4 mg/m3	AU OEL
		TWA	1 ppm	ACGIH
Acetylacetone	123-54-6	TWA	25 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentra-tion	Basis
Butanone	78-93-3	methyl ethyl ketone	Urine	End of shift (As soon as possible after exposure ceases)	2 mg/l	ACGIH BEI

Engineering measures : Minimize workplace exposure concentrations.

Personal protective equipment

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

Filter type : ABEK-filter

Hand protection
Material : butyl-rubber
Break through time : 480 min
Glove thickness : 0.5 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.

Eye protection : Ensure that eyewash stations and safety showers are close to the workstation location.
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.

		Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded. Tightly fitting safety goggles Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.
Skin and body protection	:	Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Flame retardant antistatic protective clothing. Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
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

Appearance	:	liquid
Colour	:	colourless
Odour	:	No data available
pH	:	Not applicable
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available Decomposition
Flash point	:	53 °C
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Density	:	1.14 g/cm3 (20 °C)

Solubility(ies)		
Water solubility	:	slightly soluble
Partition coefficient: n-octanol/water	:	No data available
Self-Accelerating decomposition temperature (SADT)	:	ca. 60 °C Method: UN-Test H.4 SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	not determined
Oxidizing properties	:	The substance or mixture is not classified as oxidizing. Organic peroxide

SECTION 10. STABILITY AND REACTIVITY

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

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1,741 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:

dimethyl phthalate:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	(Rat): > 10.4 mg/l Exposure time: 6 h Test atmosphere: vapour Remarks: No mortality observed at this dose.
Acute dermal toxicity	:	LD50 (Rabbit): > 12,000 mg/kg

2-Butanone, peroxide:

Acute oral toxicity	:	Acute toxicity estimate: 500 mg/kg Method: Expert judgement
Acute inhalation toxicity	:	Acute toxicity estimate: 1.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Expert judgement Assessment: The component/mixture is moderately toxic after short term inhalation. Remarks: Based on data from similar materials
Acute dermal toxicity	:	Acute toxicity estimate: 2,500 mg/kg Method: Expert judgement

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.

Butanone:

Acute oral toxicity	:	LD50 (Rat): 2,193 mg/kg Method: OECD Test Guideline 423
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Method: OECD Test Guideline 402 Remarks: Based on available data, the classification criteria are not met.

Hydrogen peroxide:

Acute oral toxicity	:	Acute toxicity estimate: 500.0 mg/kg Method: Converted acute toxicity point estimate Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	:	LC50 (Rat): > 0.17 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): > 6,500 mg/kg

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

Skin corrosion/irritation

Causes severe burns.

Product:

Remarks : Extremely corrosive and destructive to tissue.

Components:

dimethyl phthalate:

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

2-Butanone, peroxide:

Species : Rabbit
Result : Causes burns.

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

Butanone:

Species	:	Rabbit
Assessment	:	Repeated exposure may cause skin dryness or cracking.
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Hydrogen peroxide:

Result	:	Corrosive after 3 minutes or less of exposure
Remarks	:	Extremely corrosive and destructive to tissue.

Acetylacetone:

Species	:	Rabbit
Result	:	No skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks	:	May cause irreversible eye damage.

Components:

dimethyl phthalate:

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

2-Butanone, peroxide:

Result	:	Irreversible effects on the eye

2,4-Pentanedione, peroxide:

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

Diacetone alcohol:

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

Butanone:

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

Hydrogen peroxide:

Result	:	Irreversible effects on the eye
Remarks	:	May cause irreversible eye damage.

Acetylacetone:

Species	:	Rabbit
Result	:	No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Product:

Remarks	:	Causes sensitisation.

Components:

dimethyl phthalate:

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

2-Butanone, peroxide:

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

2,4-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.

Butanone:

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.

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Components:

dimethyl phthalate:

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

2-Butanone, peroxide:

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

Result: negative

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.

Butanone:

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

Method: OECD Test Guideline 476
Result: negative

Method: OECD Test Guideline 473
Result: negative

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

Hydrogen peroxide:

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

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

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

Carcinogenicity

Not classified based on available information.

Components:

dimethyl phthalate:

Species : Rat
Application Route : Skin contact
Method : OECD Test Guideline 451

Result	:	negative
Remarks	:	Based on data from similar materials

2-Butanone, peroxide:

Remarks	:	This information is not available.

2,4-Pentanedione, peroxide:

Remarks	:	This information is not available.

Hydrogen peroxide:

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

Reproductive toxicity

Not classified based on available information.

Components:

dimethyl phthalate:

Effects on fertility	:	Species: Rat Application Route: oral (gavage) Method: OECD Test Guideline 440 Result: negative
Effects on foetal development	:	Species: Rat Application Route: Ingestion General Toxicity Maternal: NOAEL: 840 mg/kg body weight Developmental Toxicity: NOAEL: 3,570 mg/kg body weight Method: OECD Test Guideline 414

2-Butanone, peroxide:

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

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

Butanone:

Effects on fertility : Species: Rat
Application Route: oral (drinking water)
General Toxicity - Parent: NOAEL: 10,000 mg/l
General Toxicity F1: NOAEL: 10,000 mg/l
Method: OECD Test Guideline 416
Remarks: Based on data from similar materials

Species: Rat
Application Route: oral (drinking water)
General Toxicity - Parent: LOAEL: 20,000 mg/l
Method: OECD Test Guideline 416
Remarks: Based on data from similar materials

Effects on foetal development : Species: Rat
Application Route: Inhalation
General Toxicity Maternal: NOAEC: ca. 1,002 mg/kg body weight
Teratogenicity: NOAEC Parent: ca. 1,002 mg/kg body weight
Method: OECD Test Guideline 414
Result: negative

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

STOT - single exposure

Not classified based on available information.

Components:

Diacetone alcohol:

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

Butanone:

Assessment	:	May cause drowsiness or dizziness.

Hydrogen peroxide:

Assessment	:	May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

dimethyl phthalate:

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

2-Butanone, peroxide:

Species	:	Rat
NOAEL	:	200 mg/kg
Application Route	:	oral (gavage)
Exposure time	:	28 d
Method	:	OECD Test Guideline 407
Repeated dose toxicity - Assessment	:	Harmful if swallowed., Harmful if inhaled.

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

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

Aspiration toxicity

Not classified based on available information.

Components:

dimethyl phthalate:

No aspiration toxicity classification

Acetylacetone:

No aspiration toxicity classification

Further information

Product:

Remarks	:	Solvents may degrease the skin.

Components:

dimethyl phthalate:

Remarks : No data available

2,4-Pentanedione, peroxide:

Remarks : No data available

Acetylacetone:

Remarks : Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

dimethyl phthalate:

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

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

Butanone:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 2,993 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 308 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 2,029 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	NOEC (Pseudomonas putida): 1,150 mg/l Exposure time: 16 h Method: DIN 38 412 Part 8

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

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 fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 10 mg/l Exposure time: 34 d Method: OECD Test Guideline 210 LOEC (Pimephales promelas (fathead minnow)): 22 mg/l Exposure time: 34 d Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 18 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
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

Persistence and degradability

Components:

dimethyl phthalate:

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

2-Butanone, peroxide:

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

2,4-Pentanedione, peroxide:

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

Diacetone alcohol:

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

Butanone:

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

Hydrogen peroxide:

Biodegradability : Result: Readily biodegradable.

Acetylacetone:

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

Bioaccumulative potential

Components:

dimethyl phthalate:

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

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

2-Butanone, peroxide:

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

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- : log Pow: -0.09 (20 °C)

octanol/water

Butanone:

Partition coefficient: n-octanol/water : log Pow: 0.3 (40 °C)

Hydrogen peroxide:

Partition coefficient: n-octanol/water : log Pow: -1.57
Remarks: Calculation

Acetylacetone:

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

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

Mobility in soil

No data available

Other adverse effects

Product:

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

Components:

dimethyl phthalate:

Additional ecological information : No data available

2,4-Pentanedione, peroxide:

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of wastes in an approved waste disposal facility.
The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemi-

cal 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

International Regulations

UNRTDG

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

IATA-DGR

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

IMDG-Code

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

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

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	UN 3105
Proper shipping name	:	ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S), ACETYL ACETONE PEROXIDE)
Class	:	5.2
Packing group	:	Not assigned by regulation
Labels	:	5.2
Hazchem Code	:	2WE

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.

SECTION 15. REGULATORY INFORMATION

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

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 6
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

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

SECTION 16. OTHER INFORMATION

Further information

Revision Date	:	02.06.2023
Other information	:	This safety datasheet only contains information relating to safety and does not replace any product information or product specification. These safety instructions also apply to empty packaging which may still contain product residues. The hazards on the label also apply to residues in the container.
Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
AU OEL	:	Australia. Workplace Exposure Standards for Airborne Contaminants.
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / C	:	Ceiling limit
AU OEL / TWA	:	Exposure standard - time weighted average
AU OEL / STEL	:	Exposure standard - short term exposure limit
AU OEL / Peak limit	:	Exposure standard - peak

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and

Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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

AU / EN