SAFETY DATA SHEET

NOROX®MEKP-9H

Version	Revision Date:	SDS Number:	Date of last issue: 12/04/2019
3.1	06/30/2021	600000000121	Date of first issue: 10/24/2016

SECTION 1. IDENTIFICATION

Trade name : NOROX®MEKP-9H

Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier : United Initiators, Inc.

Address : 555 Garden Street
Elyria OH 44035 USA

United Initiators Canada Ltd.
2147 PG Pulp Mill Road
Prince George, BC-V2N 2S6 CANADA

Telephone : +1-440-323-3112

Telefax : +1-440-323-2659

Emergency telephone : CHEMTREC US (24h): +1-800-424-9300
CHEMTREC WORLD (24h): +1-703-527-3887
CANUTEC (24h): 1-613-996-6666

For Transportation Incidents : TERRAPURE EMERGENCY RESPONSE SERVICES (24h): 1-800-567-7455

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

Recommended use of the chemical and restrictions on use

Recommended use : Hardener

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 4

Organic peroxides : Type D

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1B

Serious eye damage	:	Category 1
Reproductive toxicity	:	Category 2
Short-term (acute) aquatic hazard	:	Category 2

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements :

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

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234 Keep only in original packaging.
P240 Ground and bond container and receiving equipment.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Storage:

P403 Store in a well-ventilated place.
P405 Store locked up.
P410 Protect from sunlight.
P411 Store at temperatures not exceeding < 100 °F/ < 38 °C.
P420 Store separately.

Disposal:

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

Other hazards

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	>= 40 - < 45 *
2-Butanone, peroxide	1338-23-4	>= 30 - < 35 *
Trimethylpentanediol isobutyrate	6846-50-0	>= 20 - < 25 *
Butanone	78-93-3	>= 1 - < 5 *
Hydrogen peroxide	7722-84-1	>= 1 - < 5 *

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
Symptoms of poisoning may appear several hours later.
Call a physician immediately.

If inhaled	:	Call a physician or poison control center immediately. If unconscious, place in recovery position and seek medical advice. Keep respiratory tract clear. Call a physician immediately. If breathed in, move person into fresh air.
In case of skin contact	:	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. If symptoms persist, call a physician.
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	:	Keep respiratory tract clear. Do NOT induce vomiting. Call a physician immediately. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	Harmful if swallowed or if inhaled. Causes serious eye damage. Suspected of damaging the unborn child. Causes severe burns.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING 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	:	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.

Flash back possible over considerable distance.
Vapors may form explosive mixtures with air.
Cool closed containers exposed to fire with water spray.

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	:	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. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Remove all sources of ignition. Follow safe handling advice and personal protective equipment recommendations. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low 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/vapors/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	:	Keep away from heat and sources of ignition. Use only explosion-proof equipment. Keep away from combustible material.
Advice on safe handling	:	Do not swallow. Do not breathe vapors/dust. Avoid contact with skin and eyes. Avoid formation of aerosol. Take precautionary measures against static discharges. Never return any product to the container from which it was originally removed. Provide sufficient air exchange and/or exhaust in work rooms. Avoid confinement. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Smoking, eating and drinking should be prohibited in the application area. Wash thoroughly after handling. For personal protection see section 8. Protect from contamination.
Conditions for safe storage	:	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. Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Store in accordance with the particular national regulations.
Materials to avoid	:	Keep away from strong acids, bases, heavy metal salts and other reducing substances.
Recommended storage temperature	:	< 38 °C
Further information on storage stability	:	No decomposition if stored normally.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame-ters / Permissible concentration	Basis
dimethyl phthalate	131-11-3	TWA	5 mg/m3	CA AB OEL
		TWA	5 mg/m3	CA BC OEL
		TWAEV	5 mg/m3	CA QC OEL
		TWA	5 mg/m3	ACGIH
2-Butanone, peroxide	1338-23-4	(c)	0.2 ppm 1.4 mg/m3	CA AB OEL
		C	0.2 ppm	CA BC OEL
		C	0.2 ppm 1.5 mg/m3	CA QC OEL
		C	0.2 ppm	ACGIH
Butanone	78-93-3	TWA	200 ppm 590 mg/m3	CA AB OEL
		STEL	300 ppm 885 mg/m3	CA AB OEL
		TWA	50 ppm	CA BC OEL
		STEL	100 ppm	CA BC OEL
		TWAEV	50 ppm 150 mg/m3	CA QC OEL
		STEV	100 ppm 300 mg/m3	CA QC OEL
		TWA	200 ppm	ACGIH
		STEL	300 ppm	ACGIH
Hydrogen peroxide	7722-84-1	TWA	1 ppm 1.4 mg/m3	CA AB OEL
		TWA	1 ppm	CA BC OEL
		TWAEV	1 ppm 1.4 mg/m3	CA QC OEL
		TWA	1 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
Material	:	Nitrile rubber
Break through time	:	< 30 min
Glove thickness	:	0.4 mm

Remarks : 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 : Tightly fitting safety goggles
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.

Hygiene measures : 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless

Odor : slight

pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	Decomposition: Decomposes below the boiling point.
Flash point	:	> 76 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	> 1
Density	:	1.1 g/cm3
Solubility(ies)		
Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	No data available
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.
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.
Chemical stability	:	Stable under recommended storage conditions.

Possibility of hazardous reactions	:	Vapors may form explosive mixture with air.
Conditions to avoid	:	Protect from contamination. Contact with incompatible substances can cause decomposition at or below SADT. Heat, flames and sparks. Avoid confinement.
Incompatible materials	:	Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1,411 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 4.29 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:

dimethyl phthalate:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	(Rat): > 10.4 mg/l Exposure time: 6 h Test atmosphere: vapor 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 judgment
Acute inhalation toxicity	:	Acute toxicity estimate: 1.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Expert judgment 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 judgment

Trimethylpentanediol isobutyrate:

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

Acute inhalation toxicity : LCLo (Rat): > 0.12 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist
Method: Expert judgment
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: No mortality observed at this dose.

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

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

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.

Trimethylpentanediol isobutyrate:

Species : Guinea pig
Exposure time : 24 h
Result : No skin irritation
Remarks : Based on available data, the classification criteria are not met.

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

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

Trimethylpentanediol isobutyrate:

Species : Rabbit
Result : No eye irritation

Butanone:

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

Hydrogen peroxide:

Result : Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

dimethyl phthalate:

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

2-Butanone, peroxide:

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

Assessment : Harmful if swallowed., Harmful if inhaled.

Trimethylpentanediol isobutyrate:

Species : Guinea pig
Result : Does not cause skin sensitization.

Butanone:

Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitization.

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

Trimethylpentanediol isobutyrate:

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

Test Type: Ames test
Result: negative

Method: OECD Test Guideline 473
Result: negative

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

Carcinogenicity

Not classified based on available information.

Components:

dimethyl phthalate:

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

2-Butanone, peroxide:

Remarks : This information is not available.

Hydrogen peroxide:

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

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

dimethyl phthalate:

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

Effects on fetal 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

Trimethylpentanediol isobutyrate:

Effects on fetal development : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

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

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 fetal 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

STOT-single exposure

Not classified based on available information.

Components:

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.

Hydrogen peroxide:

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

Aspiration toxicity

Not classified based on available information.

Components:

dimethyl phthalate:

No aspiration toxicity classification

Trimethylpentanediol isobutyrate:

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

Further information

Product:

Remarks : No data available

Components:

dimethyl phthalate:

Remarks : No data available

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	:	EC50 (Daphnia magna (Water flea)): 39 mg/l

aquatic invertebrates		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

Trimethylpentanediol isobutyrate:

Toxicity to fish	:	NOEC (Fish): >= 6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia): >= 1.46 mg/l Exposure time: 48 h NOEC (Daphnia): 0.7 mg/l Exposure time: 21 d
Toxicity to algae/aquatic plants	:	EC50 (Chlorella pyrenoidosa): > 7.49 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	LOEC (Daphnia magna (Water flea)): 0.7 mg/l Exposure time: 21 d

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	Harmful to aquatic life with long lasting effects.

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

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

Trimethylpentanediol isobutyrate:

Biodegradability : Result: rapidly biodegradable
Exposure time: 28 d
Method: OECD Test Guideline 301B

Butanone:

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

Hydrogen peroxide:

Biodegradability : Result: Readily biodegradable.

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)

Trimethylpentanediol isobutyrate:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 1.95

Partition coefficient: n-octanol/water : log Pow: 4.91 (25 °C)

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

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	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. Dispose of wastes in an approved waste disposal facility.
Contaminated packaging	:	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. Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

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

IATA-DGR

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

IMDG-Code

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

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

Not applicable for product as supplied.

Domestic regulation

TDG

UN number	:	UN 3105
Proper shipping name	:	ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S))
Class	:	5.2
Packing group	:	II
Labels	:	5.2
ERG Code	:	145
Marine pollutant	:	no

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

NPRI Components : dimethyl phthalate
Butanone

The ingredients 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
AICS (AU)	:	On the inventory, or in compliance with the inventory
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

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Further information

This material 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.

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Revision Date	:	06/30/2021
Date format	:	mm/dd/yyyy

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.

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Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / C	:	Ceiling limit
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA AB OEL / (c)	:	ceiling occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / STEL	:	short-term exposure limit
CA BC OEL / C	:	ceiling limit
CA QC OEL / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value
CA QC OEL / C	:	Ceiling

AICS - Australian Inventory of Chemical Substances; 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; 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

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