# NOROX®MEKP-900



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## **SECTION 1. IDENTIFICATION**

Trade name : NOROX®MEKP-900

Manufacturer or supplier's details

Company name of supplier : United Initiators, Inc.

Address : 555 Garden Street

Elyria OH 44035 USA

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

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 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

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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.

H361 Suspected of damaging fertility or 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/ sparks/ open flames/ hot surfaces.

No smoking.

P220 Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials.

P234 Keep only in original container.

P261 Avoid breathing mist or vapors.

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/ shower.

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.

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Storage:

P405 Store locked up.
P410 Protect from sunlight.

P411 + P235 Store at temperatures not exceeding < 100 °F/ <

38 °C. Keep cool.

P420 Store away from other materials.

Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal 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 is withheld as a trade secret

### **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 material 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

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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 center immediately. If unconscious, place in recovery position and seek medical

advice.

Keep respiratory tract clear.

In case of skin contact : If symptoms persist, call a physician.

Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with

difficulty.

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing

and shoes.

Wash contaminated clothing before re-use.

If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible

tissue damage and blindness.

In the case of contact with eyes, rinse immediately with plenty

of water and seek medical advice.

Continue rinsing eyes during transport to hospital.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Call a physician immediately.

Rinse mouth thoroughly with water.

Keep respiratory tract clear. Do NOT induce vomiting.

If symptoms persist, call a physician.

Most important symptoms

and effects, both acute and

delayed

Harmful if swallowed or if inhaled.

Causes serious eye damage.

Suspected of damaging fertility or 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

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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.

Vapors may form explosive mixtures with air.

Cool closed containers exposed to fire with water spray.

Specific extinguishing meth-

ods

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.

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, protec-: tive equipment and emergency procedures

Follow safe handling advice and personal protective

equipment recommendations.

Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Use personal protective equipment. Remove all sources of ignition.

Never return spills in original containers for re-use.

Treat recovered material as described in the section "Disposal

considerations".

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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

Take necessary action to avoid static electricity discharge

(which might cause ignition of organic vapors). 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 vapors/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

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application area.

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

Conditions for safe storage : Store in original container.

Keep containers tightly closed in a cool, well-ventilated place.

Store in cool place.

Keep in a well-ventilated place.

Contamination may result in dangerous pressure increases -

closed containers may rupture. Observe label precautions.

Store in accordance with the particular national regulations. Avoid impurities (e.g. rust, dust, ash), risk of decomposition. Electrical installations / working materials must comply with

the technological safety standards.

Containers which are opened must be carefully resealed and

kept upright to prevent leakage.

Materials to avoid : Keep away from strong acids, bases, heavy metal salts and

other reducing substances.

Recommended storage tem-

perature

< 100 °F

< 38 °C

Further information on stor-

age stability

No decomposition if stored normally.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parameters / Permissible	Basis
		exposure)	concentration	
dimethyl phthalate	131-11-3	TWA	5 mg/m3	ACGIH
		TWA	5 mg/m3	NIOSH REL
		TWA	5 mg/m3	OSHA Z-1
		TWA	5 mg/m3	OSHA P0
2-Butanone, peroxide	1338-23-4	С	0.2 ppm	ACGIH
		С	0.2 ppm	NIOSH REL
			1.5 mg/m3	
		С	0.7 ppm	OSHA P0
			5 mg/m3	
Butanone	78-93-3	TWA	200 ppm	ACGIH
		STEL	300 ppm	ACGIH
		TWA	200 ppm	NIOSH REL
			590 mg/m3	
		ST	300 ppm	NIOSH REL
			885 mg/m3	

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		TWA	200 ppm 590 mg/m3	OSHA Z-1
		TWA	200 ppm 590 mg/m3	OSHA P0
		STEL	300 ppm 885 mg/m3	OSHA P0
Hydrogen peroxide	7722-84-1	TWA	1 ppm	ACGIH
		TWA	1 ppm 1.4 mg/m3	NIOSH REL
		TWA	1 ppm 1.4 mg/m3	OSHA Z-1
		TWA	1 ppm 1.4 mg/m3	OSHA P0

# Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	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

Use NIOSH approved respiratory protection.

Hand protection

Material : Nitrile rubber
Break through time : 30 min
Glove thickness : 0.4 mm

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

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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

Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure

potential.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.

Wear as appropriate:

Flame retardant antistatic protective clothing.

Protective measures : The type of protective equipment must be selected according

to the concentration and amount of the dangerous substance

at the specific workplace.

Hygiene measures : Avoid contact with skin, eyes and clothing.

Keep away from food and drink. When using do not eat or drink. When using do not smoke.

Wash hands before breaks and immediately after handling

the product.

# SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless

Odor : slight

Odor Threshold : No data available

pH : No data available

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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

Remarks: Organic peroxide

Flammability (liquids) : Flammable liquid

Remarks: Organic peroxide

Self-ignition : The substance or mixture is not classified as pyrophoric.

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapor pressure : not determined

Relative vapor density : > 1

Relative density : not determined

Density : ca. 1.1 g/cm3 (20 °C)

Bulk density : Not applicable

Solubility(ies)

Water solubility : slightly soluble

Solubility in other solvents : Solvent: Phthalates

Description: soluble

Partition coefficient: n-

octanol/water

Not applicable

Autoignition temperature : not determined Decomposition

Self-Accelerating decomposi-

tion temperature (SADT)

60 °C

SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a

self-accelerating decomposition reaction.

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Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : not determined

Explosive properties : Not explosive

In use, may form flammable/explosive vapor-air mixture.

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Organic peroxide

Self-heating substances : The substance or mixture is not classified as self heating.

### **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 reac-

tions

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

heaw metal salts, reducing agents

Hazardous decomposition

products

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 or if inhaled.

**Product:** 

Acute oral toxicity : Acute toxicity estimate: 1,360 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 4.17 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

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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 tox-

icity

Acute inhalation toxicity : LCLo (Rat): > 0.12 mg/l

Exposure time: 6 h
Test atmosphere: vapor
Method: Expert judgment

Assessment: The substance or mixture has no acute inhala-

tion 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

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**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 : LD50 (Rat, male and female): 431 mg/kg

Method: Expert judgment

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 tox-

icity tests.

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

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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

Exposure time : 24 h

**Butanone:** 

Species : Rabbit Result : Eye irritation

Method : OECD Test Guideline 405

Hydrogen peroxide:

Result : Irreversible effects on the eye Remarks : Hydrogen peroxide (H2O2), 35%

Remarks : May cause irreversible eye damage.

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# 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

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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 : Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test

Method: Regulation (EC) No. 440/2008, Annex, B.13/14

(Ames test)
Result: negative

Test Type: Chromosome aberration test in vitro

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: Bacterial reverse mutation assay (AMES)

Result: negative

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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 (H2O2), 35%

Germ cell mutagenicity -

Assessment

Based on available data, the classification criteria are not met.

# 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 - Assess- : Carcinogenicity

ment

Carcinogenicity classification not possible from current data.

No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

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# Reproductive toxicity

Suspected of damaging fertility or 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 Method: OECD Test Guideline 414

Result: negative

Reproductive toxicity - As-

sessment

Suspected of damaging fertility or the unborn child., Some evidence of adverse effects on sexual function and fertility,

and/or 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

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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

Hydrogen peroxide:

Reproductive toxicity - As-

sessment

No data available

STOT-single exposure

Not classified based on available information.

**Components:** 

**Butanone:** 

Assessment : May cause drowsiness or dizziness.

Hydrogen peroxide:

Target Organs : Respiratory Tract

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

**Components:** 

Hydrogen peroxide:

Remarks : No data available

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

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Repeated dose toxicity -

Assessment

: Harmful if swallowed., Harmful if inhaled.

Hydrogen peroxide:

Species : Mouse, female NOAEL : 37 mg/kg

Application Route : oral (drinking water)

Exposure time : 90 d

Remarks : Hydrogen peroxide (H2O2), 35%

Species : Mouse, males NOAEL : 26 mg/kg

Application Route : oral (drinking water)

Exposure time : 90

Remarks : Hydrogen peroxide (H2O2), 35%

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.

Hydrogen peroxide:

Based on available data, the classification criteria are not met.

**Further information** 

Product:

Remarks : No data available

**Components:** 

dimethyl phthalate:

Remarks : No data available

Trimethylpentanediol isobutyrate:

Remarks : No data available

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### **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 tox-

icity)

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 (Chron-

ic 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

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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

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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 (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.63 mg/l

Exposure time: 21 d

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 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

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

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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 / 25 °C)

Trimethylpentanediol isobutyrate:

Bioaccumulation : Species: Fish

Bioconcentration factor (BCF): 1.95

Partition coefficient: n-

octanol/water

log Pow: 4.91 (25 °C / 25 °C)

**Butanone:** 

Partition coefficient: n-

octanol/water

log Pow: 0.3 (40 °C / 40 °C)

Hydrogen peroxide:

Partition coefficient: n-

log Pow: -1.57 (20 °C / 20 °C)

octanol/water

Remarks: Information refers to the main ingredient.

Calculation

Mobility in soil

No data available

Other adverse effects

**Product:** 

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Pro-

tection of Stratospheric Ozone - CAA Section 602 Class I

Substances

Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological infor- : An environmental hazard cannot be excluded in the event of

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mation unprofessional handling or disposal.

Toxic to aquatic life.

Components:

dimethyl phthalate:

Additional ecological infor: :

mation

No data available

# **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

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**

## **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)

Packing instruction (passen- : 570

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ger aircraft)

**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**

**49 CFR** 

UN/ID/NA number : UN 3105

Proper shipping name : Organic peroxide type D, liquid

(Methyl ethyl ketone peroxide(s), <=45%)

Class : 5.2

Packing group : Not assigned by regulation Labels : ORGANIC PEROXIDE

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**

### **CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ	Calculated product RQ
		(lbs)	(lbs)
2-Butanone, peroxide	1338-23-4	10	29

### SARA 304 Extremely Hazardous Substances Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

# SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)
Hydrogen peroxide	7722-84-1	1000

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)

Organic peroxides

Acute toxicity (any route of exposure)

Reproductive toxicity Skin corrosion or irritation

Serious eye damage or eye irritation

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SARA 313 : The following components are subject to reporting levels

established by SARA Title III, Section 313:

dimethyl 131-11-3

phthalate

#### **Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

dimethyl phthalate 131-11-3

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Butanone 78-93-3

#### **Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

dimethyl phthalate 131-11-3

This product contains the following priority pollutants related to the U.S. Clean Water Act:

dimethyl phthalate 131-11-3

#### California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

# **International Regulations**

Gefahrgruppe nach DGUV 13 Vorschrift 13 (bisher BGV B4): Ib (German regulatory requirements)

# 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

AllC (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

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PICCS (PH) On the inventory, or in compliance with the inventory

IECSC (CN) On the inventory, or in compliance with the inventory

TECI (TH) On the inventory, or in compliance with the inventory

### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

#### **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. The hazards on the label also apply to residues in the container.

compile the Material Safety

Data Sheet

Sources of key data used to : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

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

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### Full text of other abbreviations

**ACGIH** USA. ACGIH Threshold Limit Values (TLV) ACGIH BEI ACGIH - Biological Exposure Indices (BEI) NIOSH REL USA. NIOSH Recommended Exposure Limits

OSHA P0 USA. Table Z-1-A Limits for Air Contaminants (1989 vacated

values)

OSHA Z-1 USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

ACGIH / TWA 8-hour, time-weighted average ACGIH / STEL Short-term exposure limit

ACGIH / C Ceiling limit

NIOSH REL / TWA Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

NIOSH REL / ST STEL - 15-minute TWA exposure that should not be exceeded

at any time during a workday

NIOSH REL / C Ceiling value not be exceeded at any time.

OSHA P0/TWA 8-hour time weighted average OSHA P0/STEL Short-term exposure limit

Ceiling limit OSHA PO/C

OSHA Z-1 / TWA 8-hour time weighted average

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AllC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance: 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; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; 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

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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