

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

TRIGONOX HMa

Version	Revision Date:	FR / EN	Date of last issue: 23.04.2019
4.0	09.12.2022		Date of first issue: 17.04.2015

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

1.1 Product identifier

Trade name : TRIGONOX HMa

UFI : YSE6-402Y-R00S-WXCY

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

Use of the Substance/Mixture : Curing agent

1.3 Details of the supplier of the safety data sheet

Company : Nouryon Functional Chemicals B.V.
Haaksbergweg 88
NL 1101 BZ Amsterdam
Netherlands

Telephone : +31889840367

E-mail address of person responsible for the SDS : polymer.emeia@nouryon.com

1.4 Emergency telephone number

Emergency telephone number : 24 hours:+31 57 06 79211, US-CHEMTREC:1-800-424-9300, CA-CANUTEC:1-613-996-6666, JP: +81 (836) 74 8810, CN: 化学事故应急咨询电话 : +86 532 8388 9090-: Nouryon Emergency Response Centre: +31 570 679211 ORFILA / INRS: +33 1 45 42 59 59

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Organic peroxides, Type D	H242: Heating may cause a fire.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Acute toxicity, Category 4	H332: Harmful if inhaled.

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Skin corrosion, Sub-category 1C	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

- H226 Flammable liquid and vapour.
- H242 Heating may cause a fire.
- H302 + H332 Harmful if swallowed or if inhaled.
- H304 May be fatal if swallowed and enters airways.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H351 Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.
- H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

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

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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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.
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
 P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
 P391 Collect spillage.

Hazardous components which must be listed on the label:

Methyl isobutyl ketone peroxide
 2,2,4-Trimethyl-1,3-pentanediol diisobutanoate
 Methyl isobutyl ketone

2.3 Other hazards

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

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

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Methyl isobutyl ketone peroxide	37206-20-5 942-932-9 01-2120103792-63	Flam. Liq. 3; H226 Org. Perox. A; H240 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Asp. Tox. 1; H304	>= 45 - <= 55

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		<p>Aquatic Chronic 2; H411</p> <hr/> <p>Acute toxicity estimate</p> <p>Acute oral toxicity: 1.575,3 mg/kg Acute inhalation toxicity (dust/mist): 1,5 mg/l</p>	
2,2,4-Trimethyl-1,3-pentanediol diisobutanoate	6846-50-0 229-934-9 01-2119451093-47	Repr. 2; H361d Aquatic Chronic 3; H412	>= 15 - <= 25
Methyl isobutyl ketone	108-10-1 203-550-1 606-004-00-4 01-2119473980-30	Flam. Liq. 2; H225 Acute Tox. 4; H332 Eye Irrit. 2; H319 Carc. 2; H351 STOT SE 3; H336 (Central nervous system) EUH066	>= 10 - <= 15
		<hr/> <p>Acute toxicity estimate</p> <p>Acute inhalation toxicity (vapour): 11 mg/l</p>	
Diacetone alcohol	123-42-2 204-626-7 603-016-00-1 01-2119473975-21	Eye Irrit. 2; H319 Repr. 2; H361d STOT SE 3; H335 (Respiratory system)	>= 5 - <= 15
		<hr/> <p>specific concentration limit Eye Irrit. 2; H319 >= 10 %</p>	
Hydrogen peroxide solution	7722-84-1 231-765-0 008-003-00-9 01-2119485845-22	Ox. Liq. 1; H271 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3;	< 2

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		<p>H412</p> <hr/> <p>specific concentration limit</p> <p>Ox. Liq. 1; H271 >= 70 %</p> <p>Ox. Liq. 2; H272 50 - < 70 %</p> <p>Skin Corr. 1A; H314 >= 70 %</p> <p>Skin Corr. 1B; H314 50 - < 70 %</p> <p>Skin Irrit. 2; H315 35 - < 50 %</p> <p>Eye Dam. 1; H318 8 - < 50 %</p> <p>Eye Irrit. 2; H319 5 - < 8 %</p> <p>STOT SE 3; H335 >= 35 %</p> <p>Aquatic Chronic 3; H412 >= 63 %</p> <hr/> <p>Acute toxicity estimate</p> <p>Acute oral toxicity: 431 mg/kg</p> <p>Acute inhalation toxicity (dust/mist): 1,5 mg/l</p>
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For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Immediate medical attention is required.
 Move out of dangerous area.
 Show this safety data sheet to the doctor in attendance.
- If inhaled : If breathed in, move person into fresh air.
 Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.

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Rinse immediately with plenty of water.
 Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
 If skin irritation persists, call a physician.

In case of eye contact : Rinse with plenty of water.
 Get medical attention immediately. Continue to rinse during transport.
 Remove contact lenses.
 Protect unharmed eye.
 Keep eye wide open while rinsing.
 Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
 Never give anything by mouth to an unconscious person.
 Take victim immediately to hospital.
 Do not induce vomiting! May cause chemical burns in mouth and throat.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Risks : Harmful if swallowed or if inhaled.
 May be fatal if swallowed and enters airways.
 May cause an allergic skin reaction.
 Causes serious eye damage.
 Suspected of causing cancer.
 Suspected of damaging the unborn child.
 Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : CAUTION: reignition may occur.
Supports combustion.
Water spray may be ineffective unless used by experienced firefighters.
Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous decomposition products formed under fire conditions.
- Hazardous combustion products : Fire will produce smoke containing hazardous combustion products (see section 10).
Oxygen

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Use water spray to cool unopened containers.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment.
Wear respiratory protection.
Ensure adequate ventilation.
Remove all sources of ignition.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Evacuate personnel to safe areas.
Only qualified personnel equipped with suitable protective equipment may intervene.
Prevent unauthorised persons entering the zone.

6.2 Environmental precautions

- Environmental precautions : Prevent product from entering drains.
Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up with inert absorbent material and dispose of as

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hazardous waste.
Use only inert inorganic material such as vermiculite or perlite as absorbent.
Keep mixture of absorbent material and spilled product wetted with water.
Confinement must be avoided.
Never return spills in original containers for re-use.

6.4 Reference to other sections

For disposal considerations see section 13.
For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : For personal protection see section 8.
Avoid formation of aerosol.
Do not breathe vapours or spray mist.
Avoid contact with skin.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Container may be opened only under exhaust ventilation hood.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.
- Advice on protection against fire and explosion : Use explosion protected equipment. Avoid formation of aerosol. Keep away from sources of ignition - No smoking. No sparking tools should be used. Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps). Do not cut or weld on or near this container even when empty. Take measures to prevent the build up of electrostatic charge. Keep away from combustible material.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday. Wash contaminated clothing before re-use.
- Temperature class : It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded.

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7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Prevent unauthorized access. No smoking. Keep in a well-ventilated place. Electrical installations / working materials must comply with the technological safety standards. Keep only in original container. Store away from other materials.

Further information on storage stability : No decomposition if stored and applied as directed.

Maximum storage temperature is for quality only.

Maximum storage temperature: : 25 °C

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Methyl isobutyl ketone	108-10-1	TWA	20 ppm 83 mg/m ³	2000/39/EC
		Further information: Indicative		
		STEL	50 ppm 208 mg/m ³	2000/39/EC
		Further information: Indicative		
		VME	20 ppm 83 mg/m ³	FR VLE
		Further information: Carcinogenic category 2 - Possibly carcinogenic to humans, Regulatory binding exposure limits		
		VLCT (VLE)	50 ppm 208 mg/m ³	FR VLE
		Further information: Carcinogenic category 2 - Possibly carcinogenic to humans, Regulatory binding exposure limits		
Diacetone alcohol	123-42-2	VME	50 ppm 240 mg/m ³	FR VLE
		Further information: Indicative exposure limits		
Hydrogen peroxide solution	7722-84-1	VME	1 ppm 1,5 mg/m ³	FR VLE
		Further information: Indicative exposure limits		

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Methyl isobutyl ketone	Workers	Inhalation	Long-term systemic effects	83 mg/m ³
	Workers	Dermal	Long-term systemic effects	11,8 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	14,7 mg/m ³
	Consumers	Dermal	Long-term systemic effects	4,2 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	4,2 mg/kg bw/day
Methyl isobutyl ketone peroxide	Workers	Inhalation	Long-term systemic effects	2,64 mg/m ³
	Workers	Dermal	Long-term systemic effects	1,5 mg/kg bw/day
	Workers	Dermal	Long-term local effects	
Remarks:Qualitative assessment, High, Hazardous				
	Workers	Dermal	Acute local effects	
Remarks:Qualitative assessment, High, Hazardous				
	Workers	Inhalation	Long-term local effects	
Remarks:Qualitative assessment, medium hazard (no threshold derived)				
	Workers	Inhalation	Acute local effects	
Remarks:Qualitative assessment, medium hazard (no threshold derived)				
	Workers	Eye contact		
Remarks:Qualitative assessment, medium hazard (no threshold derived)				
2,2,4-Trimethyl-1,3-pentenediol diisobutanoate	Workers	Inhalation	Long-term systemic effects	17,62 mg/m ³
	Workers	Oral	Long-term systemic effects	5 mg/kg bw/day
Diacetone alcohol	Workers	Dermal	Long-term systemic effects	9,4 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	66,4 mg/m ³
	Workers	Inhalation	Acute local effects	240 mg/m ³
	Workers	Inhalation	Long-term local effects	66,4 mg/m ³
	Consumers	Inhalation	Acute local effects	120 mg/m ³
	Consumers	Dermal	Long-term systemic effects	3,4 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	3,4 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic	11,8 mg/m ³

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	Consumers	Inhalation	effects Long-term local effects	11,8 mg/m3
Hydrogen peroxide solution	Workers	Inhalation	Acute local effects	3 mg/m3
	Workers	Inhalation	Long-term local effects	1,4 mg/m3
	Consumers	Inhalation	Long-term local effects	0,21 mg/m3
	Consumers	Inhalation	Acute local effects	1,93 mg/m3

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

Substance name	Environmental Compartment	Value
Methyl isobutyl ketone	Fresh water	0,6 mg/l
	Marine water	0,06 mg/l
	Intermittent water	1,5 mg/l
	Sewage treatment plant	27,5 mg/l
	Fresh water sediment	8,27 mg/kg dry weight
	Marine sediment	0,83 mg/kg dry weight
Methyl isobutyl ketone peroxide	Fresh water	0,00133 mg/l
	Marine water	0,00133 mg/l
	Sewage treatment plant	1,28 mg/l
	Fresh water sediment	0,59 mg/kg
	Marine sediment	0,059 mg/kg
	Soil	0,117 mg/kg
2,2,4-Trimethyl-1,3-pentanediol diisobutanoate	Fresh water	0,014 mg/l
	Marine water	0,0014 mg/l
	Sewage treatment plant	3 mg/l
	Fresh water sediment	5,29 mg/kg dry weight
	Marine sediment	0,529 mg/kg dry weight
Diacetone alcohol	Fresh water	2 mg/l
	Intermittent water	1 mg/l
	Marine water	0,2 mg/l
	Fresh water sediment	9,06 mg/kg dry weight
	Marine sediment	0,91 mg/kg dry weight
	Sewage treatment plant	82 mg/l

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	Soil	0,63 mg/kg dry weight
Hydrogen peroxide solution	Fresh water	0,0126 mg/l
	Marine water	0,0126 mg/l
	Soil	0,0023 mg/kg
	Sewage treatment plant	4,66 mg/l
	Fresh water sediment	0,047 mg/kg
	Marine sediment	0,047 mg/kg
	Intermittent water	0,0138 mg/l

8.2 Exposure controls

Engineering measures

Explosion proof ventilation recommended.
 Effective exhaust ventilation system
 Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection : Tightly fitting safety goggles
 Wear face-shield and protective suit for abnormal processing problems.

Hand protection
 Material : Neoprene
 Material : Nitrile rubber

Skin and body protection : Protective suit

Respiratory protection : In the case of vapour or aerosol formation use a respirator with an approved filter.
 Filter A

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Clear liquid

Colour : colourless

Odour : Faint.

Odour Threshold : No data available

Melting point : No data available

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Boiling point/boiling range	:	Decomposes below the boiling point.
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	45 °C
Auto-ignition temperature	:	Test method not applicable
Decomposition temperature	:	SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-Accelerating decomposition temperature (SADT)	:	55 °C
pH	:	substance/mixture not stable
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	Description: Soluble in most organic solvents.
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Bulk density	:	Not applicable
Relative vapour density	:	No data available

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9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	Not classified as oxidising.
Flammability (liquids)	:	Decomposition products may be flammable.
Evaporation rate	:	No data available
Active Oxygen Content	:	10,3 %
Organic peroxides	:	45 - 55 %

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : Confinement must be avoided.
Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Contact with the following incompatible materials will result in hazardous decomposition:
Acids and bases
Iron
Copper
Reducing agents
Heavy metals
Rust
Do not mix with peroxide accelerators, unless under controlled processing.
Use only stainless steel 316, PP, polyethylene or glass-lined equipment.
For queries regarding the suitability of other materials please contact the supplier.

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10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

Hazardous decomposition products : Carbon oxides

Thermal decomposition : SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.

Self-Accelerating decomposition temperature (SADT) : 55 °C

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : LD50 (Rat): 1.770 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Components:

Methyl isobutyl ketone peroxide:

Acute oral toxicity : LD50 (Rat, male and female): 1.575,3 mg/kg
Method: OECD Test Guideline 401

Acute toxicity estimate: 1.575,3 mg/kg
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat, male and female): 1,5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

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Acute toxicity estimate: 1,5 mg/l
 Test atmosphere: dust/mist
 Method: Calculation method

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
 Method: OECD Test Guideline 402
 GLP: yes
 Assessment: The substance or mixture has no acute dermal toxicity

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LCLo (Rat): > 0,12 mg/l
 Exposure time: 6 h
 Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

Methyl isobutyl ketone:

Acute oral toxicity : LD50 (Rat): 2.080 mg/kg
 Method: OECD Test Guideline 401

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l
 Test atmosphere: vapour
 Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

LC50 (Rat, male): 8,2 - 16,4 mg/l
 Exposure time: 4 h
 Test atmosphere: vapour
 Method: OECD Test Guideline 403
 Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD0 (Rat, male and female): > 2.000 mg/kg
 Method: OECD Test Guideline 402
 Assessment: The substance or mixture has no acute dermal toxicity

Diacetone alcohol:

Acute oral toxicity : LD50 (Rat, male and female): 3.002 mg/kg
 Method: OECD Test Guideline 401
 Symptoms: Central nervous system depression

Acute inhalation toxicity : LC0 (Rat, male and female): > 7,6 mg/l

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Exposure time: 4 h
 Test atmosphere: vapour
 Method: OECD Test Guideline 403
 Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD0 (Rat, male and female): > 1.875 mg/kg
 Method: OECD Test Guideline 402
 Assessment: The substance or mixture has no acute dermal toxicity

Hydrogen peroxide solution:

Acute oral toxicity : LD50 (Rat): 431 mg/kg
 Method: OECD Test Guideline 401
 Remarks: Information taken from reference works and the literature.

Acute toxicity estimate: 431 mg/kg
 Method: Calculation method

Acute inhalation toxicity : LC50: 1,5 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: Expert judgement

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Acute toxicity estimate: 1,5 mg/l
 Test atmosphere: dust/mist
 Method: Calculation method

Acute dermal toxicity : LD50 Dermal (Rabbit, male): > 5.000 mg/kg
 Remarks: Information taken from reference works and the literature.

Skin corrosion/irritation

Causes severe burns.

Components:

Methyl isobutyl ketone peroxide:

Species : Rabbit
 Exposure time : 4 h
 Assessment : Category 1C
 Method : OECD Test Guideline 404

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Result : Corrosive after 1 to 4 hours of exposure

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

Species : Rabbit
 Exposure time : 4 h
 Assessment : No skin irritation
 Method : OECD Test Guideline 404
 Result : No skin irritation
 GLP : yes

Methyl isobutyl ketone:

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

Diacetone alcohol:

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

Hydrogen peroxide solution:

Result : Causes severe burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Methyl isobutyl ketone peroxide:

Species : Rabbit
 Assessment : Category 1
 Method : OECD Test Guideline 405
 Result : Irreversible effects on the eye

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

Species : Rabbit
 Assessment : No eye irritation
 Method : OECD Test Guideline 405
 Result : No eye irritation
 GLP : yes
 Remarks : Dose 0,1 ml

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Methyl isobutyl ketone:

Species : Rabbit
 Method : OECD Test Guideline 405
 Result : Irritating to eyes.
 GLP : yes

Diacetone alcohol:

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

Hydrogen peroxide solution:

Assessment : Causes severe burns.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Methyl isobutyl ketone peroxide:

Test Type : Maximisation Test
 Species : Guinea pig
 Assessment : May cause sensitisation by skin contact.
 Method : OECD Test Guideline 406
 GLP : yes

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

Species : Guinea pig
 Assessment : The substance or mixture is not classified.
 Result : Not a skin sensitizer.

Species : Human.
 Assessment : The substance or mixture is not classified.
 Result : Not a skin sensitizer.

Methyl isobutyl ketone:

Test Type : Maximisation Test
 Species : Guinea pig
 Method : OECD Test Guideline 406

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Result : Not sensitizing.

Diacetone alcohol:

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

Germ cell mutagenicity

Not classified based on available information.

Components:

Methyl isobutyl ketone peroxide:

Genotoxicity in vitro : Test Type: Ames test
 Test system: Salmonella typhimurium
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 471
 Result: negative

Test Type: Chromosome aberration test in vitro
 Test system: Human lymphocytes
 Metabolic activation: no
 Method: OECD Test Guideline 473
 Result: positive

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

Test Type: In vitro gene mutation study in mammalian cells
 Test system: Chinese hamster lung fibroblasts
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: Not mutagenic.

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

Genotoxicity in vitro : Test Type: In vitro gene mutation study in mammalian cells
 Test system: Chinese hamster ovary cells
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: negative
 GLP: yes

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Test Type: reverse mutation assay
 Test system: Salmonella typhimurium
 Metabolic activation: with and without metabolic activation
 Method: Regulation (EC) No. 440/2008, Annex, B.13/14
 (Ames test)
 Result: negative
 GLP: yes

Methyl isobutyl ketone:

Genotoxicity in vitro : Test Type: reverse mutation assay
 Test system: Salmonella typhimurium
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 471
 Result: negative
 GLP: yes

Test Type: In vitro mammalian cell gene mutation test
 Test system: mouse lymphoma cells
 Metabolic activation: Metabolic activation
 Method: OECD Test Guideline 476
 Result: negative
 GLP: yes

Test Type: In vitro mammalian cell gene mutation test
 Test system: mouse lymphoma cells
 Metabolic activation: no
 Method: OECD Test Guideline 476
 Result: Ambiguous results
 GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
 Species: Mouse (male and female)
 Cell type: Bone marrow
 Application Route: Intraperitoneal
 Method: OECD Test Guideline 474
 Result: negative
 GLP: yes

Diacetone alcohol:

Genotoxicity in vitro : Test Type: Ames test
 Test system: Escherichia coli
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 471
 Result: negative

Test Type: In vitro gene mutation study in mammalian cells
 Test system: mouse lymphoma cells

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Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: negative

Test Type: Chromosome aberration test in vitro
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 473
 Result: negative

Hydrogen peroxide solution:

Genotoxicity in vivo : Species: Mouse (male and female)
 Application Route: Intraperitoneal
 Method: Mutagenicity (micronucleus test)
 Result: negative
 GLP: yes
 Remarks: Information taken from reference works and the literature.

Carcinogenicity

Suspected of causing cancer.

Components:

Methyl isobutyl ketone:

Species : Rat, male and female
 Application Route : inhalation (vapour)
 NOAEC : 450 ppm
 Method : OECD Test Guideline 451
 GLP : yes

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in inhalation studies with animals.

Diacetone alcohol:

Result : Not carcinogenic on laboratory animals.
 Remarks : Read-across from supporting substance (structural analogue or surrogate).

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

Methyl isobutyl ketone peroxide:

Effects on fertility : Test Type: reproductive and developmental toxicity study
 Species: Rat, male and female

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Strain: wistar
 Application Route: Oral
 General Toxicity - Parent: NOAEL: 600 mg/kg bw/day
 General Toxicity F1: NOAEL: 600 mg/kg bw/day
 Method: OECD Test Guideline 422
 GLP: yes

Test Type: reproductive and developmental toxicity study
 Species: Rat, male and female
 Application Route: Oral
 General Toxicity - Parent: NOAEL: 75 mg/kg bw/day
 General Toxicity F1: NOAEL: 50 mg/kg bw/day
 Method: OECD Test Guideline 421
 GLP: yes

Effects on foetal development : Test Type: Pre-natal
 Species: Rat
 Strain: wistar
 Application Route: Oral
 General Toxicity Maternal: NOAEL: 65 mg/kg bw/day
 Developmental Toxicity: NOAEL: 200 mg/kg bw/day
 Method: OECD Test Guideline 414
 GLP: yes

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Methyl isobutyl ketone:

Effects on fertility : Test Type: Two-generation study
 Species: Rat, male and female
 Application Route: inhalation (vapour)
 General Toxicity - Parent: NOAEL: 1.000 ppm
 General Toxicity F1: NOAEL: 2.000 ppm
 Method: OECD Test Guideline 416
 GLP: yes

Effects on foetal development : Species: Rat
 Application Route: inhalation (vapour)
 General Toxicity Maternal: NOAEL: 1.000 ppm
 Teratogenicity: NOAEL: 3.000 ppm
 Method: OECD Test Guideline 414
 GLP: yes

Diacetone alcohol:

Effects on fertility : Test Type: Fertility/early embryonic development

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Species: Rat, male and female
 Strain: wistar
 Application Route: Oral
 Dose: 0 100, 300, 1000 milligram per kilogram
 General Toxicity - Parent: NOAEL: 300 mg/kg bw/day
 General Toxicity F1: NOAEL F1: 300 mg/kg bw/day
 Method: OECD Test Guideline 422

Effects on foetal development : Species: Rabbit, female
 Application Route: Oral
 Dose: 100, 300, 800 milligram per kilogram
 General Toxicity Maternal: NOAEL: 300 mg/kg bw/day
 Embryo-foetal toxicity: NOAEL: 100 mg/kg bw/day
 Method: OECD Test Guideline 414
 GLP: yes

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Not classified based on available information.

Components:

Methyl isobutyl ketone:

Target Organs : Narcotic effects
 Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Diacetone alcohol:

Exposure routes : Inhalation
 Target Organs : Respiratory system
 Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

Diacetone alcohol:

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

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Repeated dose toxicity

Components:

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

Species	: Rat, male and female
NOAEL	: 750 mg/kg bw/day
Application Route	: Oral
Remarks	: Not classified due to data which are conclusive although insufficient for classification.

Methyl isobutyl ketone:

Species	: Rat, male and female
NOAEL	: 250 mg/kg bw/day
Application Route	: Oral
Method	: OECD Test Guideline 408
GLP	: yes

Species	: Rat, male and female
NOAEC	: 450 ppm
Application Route	: inhalation (vapour)
Method	: OECD Test Guideline 451
GLP	: yes

Diacetone alcohol:

Species	: Rat
NOAEL	: 100 mg/kg
Application Route	: Oral
Exposure time	: 44 d

Species	: Rat
NOAEL	: 1,041 mg/l
Application Route	: Inhalation
Test atmosphere	: vapour
Exposure time	: 14 d
Target Organs	: Kidney

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

Methyl isobutyl ketone peroxide:

May be fatal if swallowed and enters airways.

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2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

No aspiration toxicity classification

Methyl isobutyl ketone:

No aspiration toxicity classification

Diacetone alcohol:

No aspiration toxicity classification

11.2 Information on other hazards

Endocrine disrupting properties

Product:

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

Further information

Product:

Remarks : Solvents may degrease the skin.

Remarks : No further data available.

Components:

Hydrogen peroxide solution:

Remarks : No further data available.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Methyl isobutyl ketone peroxide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1,89 mg/l
 Exposure time: 96 h
 Test Type: semi-static test
 Method: OECD Test Guideline 203
 GLP: yes

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		NOEC (Danio rerio (zebra fish)): 1,38 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4,48 mg/l End point: Immobilization Exposure time: 48 h Test Type: semi-static test Method: OECD Test Guideline 202 GLP: yes
		EC50 (Daphnia magna (Water flea)): 2 mg/l End point: Immobilization Exposure time: 48 h Test Type: semi-static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	EC50 (Raphidocelis subcapitata (freshwater green alga)): 1,04 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
		NOEC (Raphidocelis subcapitata (freshwater green alga)): 0,15 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
Toxicity to microorganisms	:	EC50 (activated sludge): 37 mg/l Exposure time: 3 h Test Type: static test Method: OECD Test Guideline 209 GLP: yes
		NOEC (activated sludge): 6,33 mg/l Exposure time: 3 h Test Type: static test Method: OECD Test Guideline 209 GLP: yes

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

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- Toxicity to fish : NOEC (Fish): ≥ 6 mg/l
Exposure time: 96 h

- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): $> 1,46$ mg/l
Exposure time: 48 h
Test Type: static test

- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): $> 7,49$ mg/l
Exposure time: 72 h
Test Type: Fresh water
Method: OECD Test Guideline 201

- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Lowest observed effect level: $> 1,3$ mg/l
End point: reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)

- NOEC: 0,7 mg/l
End point: reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)

Ecotoxicology Assessment

- Acute aquatic toxicity : No toxicity at the limit of solubility

- Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Methyl isobutyl ketone:

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

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

- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 30 mg/l
End point: reproduction rate
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Method: OECD Test Guideline 211

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Diacetone alcohol:

- Toxicity to fish : LC50 (*Oryzias latipes* (Orange-red killifish)): > 100 mg/l
 Exposure time: 96 h
 Test Type: semi-static test
 Method: OECD Test Guideline 203
 GLP: yes
- Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 1.000 mg/l
 Exposure time: 48 h
 Test Type: Immobilization
 Method: OECD Test Guideline 202
 GLP: yes
- Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): > 1.000 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 GLP: yes
- NOEC (*Pseudokirchneriella subcapitata* (green algae)): 1.000 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 GLP: yes
- Toxicity to microorganisms : EC50 (activated sludge): > 1.000 mg/l
 Exposure time: 3 h
 Test Type: static test
 Method: OECD Test Guideline 209
 GLP: yes
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 100 mg/l
 End point: reproduction rate
 Exposure time: 21 d
 Species: *Daphnia magna* (Water flea)
 Test Type: semi-static test
 Method: OECD Test Guideline 211
 GLP: yes

Hydrogen peroxide solution:

- Toxicity to fish : LC50 (*Pimephales promelas* (fathead minnow)): 16,4 mg/l
 Exposure time: 96 h
 Test Type: semi-static test
 Remarks: Information taken from reference works and the

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literature.

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia pulex (Water flea)): 2,4 mg/l
 Exposure time: 48 h
 Test Type: semi-static test
 Remarks: Information taken from reference works and the literature.

Toxicity to algae/aquatic plants : ErC50 (Skeletonema costatum (marine diatom)): 1,38 mg/l
 Exposure time: 72 h
 Test Type: static test
 Remarks: Information taken from reference works and the literature.

Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Components:

Methyl isobutyl ketone peroxide:

Biodegradability : Test Type: Ready biodegradability
 Inoculum: Activated sludge, domestic, non-adapted
 Result: Readily biodegradable.
 Biodegradation: 76 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301D
 GLP: yes

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

Biodegradability : Test Type: CO2 Evolution Test
 Biodegradation: 70,73 %
 Exposure time: 28 d
 Remarks: The 10 day time window criterion is not fulfilled.

Methyl isobutyl ketone:

Biodegradability : Test Type: Ready biodegradability
 Inoculum: Activated sludge, domestic
 Result: Readily biodegradable.
 Biodegradation: 83 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301F
 GLP: yes

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Diacetone alcohol:

Biodegradability : Test Type: Ready biodegradability
 Result: Readily biodegradable.
 Biodegradation: 98,5 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301A

Hydrogen peroxide solution:

Biochemical Oxygen Demand (BOD) : Remarks: No data available

12.3 Bioaccumulative potential

Components:

Methyl isobutyl ketone peroxide:

Partition coefficient: n-octanol/water : log Pow: 4,2 (20 °C)
 Method: OECD Test Guideline 117

2,2,4-Trimethyl-1,3-pentanediol diisobutanoate:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
 Concentration: 0,00519 mg/l
 Bioconcentration factor (BCF): 194

Species: Lepomis macrochirus (Bluegill sunfish)
 Concentration: 0,0517 mg/l
 Bioconcentration factor (BCF): 183

Species: Lepomis macrochirus (Bluegill sunfish)
 Concentration: 0,0956 mg/l
 Bioconcentration factor (BCF): 1,95

Partition coefficient: n-octanol/water : log Pow: 4,04 - 4,91 (25 °C)
 pH: 7
 Method: Calculation method

Methyl isobutyl ketone:

Partition coefficient: n-octanol/water : log Pow: 1,9
 pH: 6,7

Diacetone alcohol:

Bioaccumulation : Remarks: No bioaccumulation is expected.

Partition coefficient: n- : log Pow: -0,09

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Components:

Hydrogen peroxide solution:

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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 contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not burn, or use a cutting torch on, the empty drum.
Due to the high risk of contamination recycling/recovery is not recommended.
Follow all warnings even after the container is emptied.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 3105
ADR : UN 3105
RID : UN 3105
IMDG : UN 3105
IATA : UN 3105

14.2 UN proper shipping name

ADN : ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl isobutyl ketone peroxide)
ADR : ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl isobutyl ketone peroxide)

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RID : ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl isobutyl ketone peroxide)

IMDG : ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl isobutyl ketone peroxide)

IATA : Organic peroxide type D, liquid
(Methyl isobutyl ketone peroxide)

14.3 Transport hazard class(es)

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

14.4 Packing group

ADN
Packing group : Not assigned by regulation
Classification Code : P1
Labels : 5.2

ADR
Packing group : Not assigned by regulation
Classification Code : P1
Labels : 5.2
Tunnel restriction code : (D)

RID
Packing group : Not assigned by regulation
Classification Code : P1
Hazard Identification Number : 539
Labels : 5.2

IMDG
Packing group : Not assigned by regulation
Labels : 5.2
EmS Code : F-J, S-R

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

IATA (Passenger)
Packing instruction : 570

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(passenger aircraft)

Packing group : Not assigned by regulation
 Labels : Organic Peroxides, Keep Away From Heat

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG

Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 3
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

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Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Hydrogen peroxide solution (ANNEX I)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

E2 ENVIRONMENTAL HAZARDS

Occupational Illnesses (R-461-3, France) : 84

Reinforced medical supervision (R4624-18) : The product has no CMR properties

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

TCSI : On the inventory, or in compliance with the inventory

AIIC : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

NZIoC : Not in compliance with the inventory

TECI : Not in compliance with the inventory

TSCA : All chemical substances in this product are either listed on the

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

TRIGONOX HMa

Version	Revision Date:	FR / EN	Date of last issue: 23.04.2019
4.0	09.12.2022		Date of first issue: 17.04.2015

TSCA Inventory or in compliance with a TSCA Inventory exemption.

15.2 Chemical safety assessment

- | | | |
|---|---|---|
| 2,2,4-Trimethyl-1,3-pentandiol diisobutanoate | : | A Chemical Safety Assessment has been carried out for this substance. |
| Hydrogen peroxide solution | : | A Chemical Safety Assessment has been carried out for this substance. |
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SECTION 16: Other information

Full text of H-Statements

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|--------|---|---|
| H225 | : | Highly flammable liquid and vapour. |
| H226 | : | Flammable liquid and vapour. |
| H240 | : | Heating may cause an explosion. |
| H271 | : | May cause fire or explosion; strong oxidizer. |
| H302 | : | Harmful if swallowed. |
| H304 | : | May be fatal if swallowed and enters airways. |
| H314 | : | Causes severe skin burns and eye damage. |
| H317 | : | May cause an allergic skin reaction. |
| H318 | : | Causes serious eye damage. |
| H319 | : | Causes serious eye irritation. |
| H332 | : | Harmful if inhaled. |
| H335 | : | May cause respiratory irritation. |
| H336 | : | May cause drowsiness or dizziness. |
| H351 | : | Suspected of causing cancer. |
| H361d | : | Suspected of damaging the unborn child. |
| H411 | : | Toxic to aquatic life with long lasting effects. |
| H412 | : | Harmful to aquatic life with long lasting effects. |
| EUH066 | : | Repeated exposure may cause skin dryness or cracking. |

Full text of other abbreviations

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

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2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
FR VLE	:	France. Occupational Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
FR VLE / VME	:	Time Weighted Average
FR VLE / VLCT (VLE)	:	Short Term Exposure Limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information	:	This data sheet contains changes from the previous version in section(s): Hazards identification Composition/information on ingredients Toxicological information Ecological information
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Classification of the mixture:

Flam. Liq. 3	H226
Org. Perox. D	H242
Acute Tox. 4	H302
Acute Tox. 4	H332
Skin Corr. 1C	H314
Eye Dam. 1	H318
Skin Sens. 1	H317
Carc. 2	H351
Repr. 2	H361d
Asp. Tox. 1	H304
Aquatic Chronic 2	H411

Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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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