

## SAFETY DATA SHEET

## TRIGONOX 44B

Version 3.1      Revision Date: 2023.04.07      CL / EN      Date of last issue: 2022.12.26  
Date of first issue: 2015.04.24

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**SECTION 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE COMPANY OR UNDERTAKING**

Product identifier : TRIGONOX 44B

:

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

Recommended use : Curing agent

**Details of the supplier of the safety data sheet**

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

Supplier's address : Haaksbergweg 88  
Amsterdam 1101 BZ

Supplier's telephone number : +31889840367

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

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**SECTION 2. HAZARDS IDENTIFICATION****Classification of the substance or mixture**


Organic peroxides : Type E  
Eye irritation : Category 2  
Skin sensitisation : Sub-category 1B  
Reproductive toxicity : Category 2

**Label elements**

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Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	H242 Heating may cause a fire. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H361d Suspected of damaging the unborn child.
Precautionary statements	:	<b>Prevention:</b> P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P234 Keep only in original packaging. P235 Keep cool. P240 Ground and bond container and receiving equipment. P261 Avoid breathing mist or vapours. P264 Wash skin thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. <b>Response:</b> P302 + P352 IF ON SKIN: Wash with plenty of water. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention. P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish. <b>Storage:</b> P403 Store in a well-ventilated place. P405 Store locked up. P410 Protect from sunlight.

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P420 Store separately.

**Disposal:**

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

**Other hazards**

None known.

**SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Systematic chemical name	CAS-No.	Classification	Concentration or range (% w/w)
Diacetone alcohol	123-42-2	Eye Dam./Irrit. 2; H319 Repr. 2; H361d STOT SE 3; H335 (Respiratory system)	>= 40 -<= 55
Acetylacetone peroxide	37187-22-7	Org. Perox. D; H242 Eye Dam./Irrit. 2; H319 Skin Sens. 1B; H317	>= 25 -<= 35
Diethylene glycol	111-46-6	Acute Tox. (Oral) 4; H302	>= 5 -<= 9
Acetylacetone	123-54-6	Flam. Liq. 3; H226 Acute Tox. (Oral) 4; H302 Acute Tox. (Inhalation) 3; H331 Acute Tox. (Dermal) 3; H311	>= 0,1 -<= 6
Hydrogen peroxide solution	7722-84-1	Ox. Liq. 1; H271 Acute Tox. (Oral) 4; H302 Acute Tox. (Inhalation) 4; H332 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412	>= 1 -<= 2

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Diacetone alcohol	123-42-2	Eye Dam./Irrit. 2; H319 Repr. 2; H361d STOT SE 3; H335 (Respiratory system)	$\geq 40$ - $\leq 55$
Acetylacetone peroxide	37187-22-7	Org. Perox. D; H242 Eye Dam./Irrit. 2; H319 Skin Sens. 1B; H317	$\geq 25$ - $\leq 35$
Diethylene glycol	111-46-6	Acute Tox. (Oral) 4; H302	$\geq 5$ - $\leq 9$
Acetylacetone	123-54-6	Flam. Liq. 3; H226 Acute Tox. (Oral) 4; H302 Acute Tox. (Inhalation) 3; H331 Acute Tox. (Dermal) 3; H311	$\geq 0,1$ - $\leq 6$
Hydrogen peroxide solution	7722-84-1	Ox. Liq. 1; H271 Acute Tox. (Oral) 4; H302 Acute Tox. (Inhalation) 4; H332 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412	$\geq 1$ - $\leq 2$

For explanation of abbreviations see section 16.

### SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.
- Inhalation : If breathed in, move person into fresh air.  
Consult a physician after significant exposure.
- Skin contact : Take off contaminated clothing and shoes immediately.  
Rinse immediately with plenty of water.  
If skin irritation persists, call a physician.
- Eye contact : Rinse with plenty of water.  
Remove contact lenses.

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- Protect unharmed eye.  
Keep eye wide open while rinsing.  
Obtain medical attention.
- Ingestion : Clean mouth with water and drink afterwards plenty of water.  
Never give anything by mouth to an unconscious person.  
Obtain medical attention.
- Most important symptoms and effects, both acute and delayed : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
Suspected of damaging the unborn child.
- Notes to physician : Treat symptomatically.

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**SECTION 5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Hazardous combustion products : Fire will produce smoke containing hazardous combustion products (see section 10).  
Carbon oxides  
Oxygen
- Related specific hazards : 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.
- Specific extinguishing methods : 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.
- Recommendations for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : 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.
- Environmental precautions : Prevent product from entering drains.  
Discharge into the environment must be avoided.
- Methods and material for containment and cleaning up : Soak up with inert absorbent material and dispose of as 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.

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**SECTION 7. HANDLING AND STORAGE****Handling**

- Precautions for safe handling : For personal protection see section 8.  
Avoid formation of aerosol.  
Do not breathe vapours or spray mist.  
Avoid contact with skin, eyes and clothing.  
Smoking, eating and drinking should be prohibited in the application area.  
Open drum carefully as content may be under pressure.  
Dispose of rinse water in accordance with local and national regulations.
- Operational and technical measures : Use explosion protected equipment.  
Keep away from sources of ignition - No smoking.  
No sparking tools should be used.  
Keep away from reducing agents (e.g. amines), acids, alkalis and heavy metal compounds (e.g. accelerators, driers, metal soaps).

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Do not cut or weld on or near this container even when empty.  
 Keep away from combustible material.

Contact prevention : 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.

#### Conditions for safe storage, including any incompatibilities

Conditions for safe storage : Prevent unauthorized access.  
 No smoking.  
 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 : If product freezes or separates, contact the manufacturer.

Maximum storage temperature is for quality only.

Minimum storage temperature: : Avoid temperatures below:  
 -10 °C

Maximum storage temperature: : 25 °C

#### Specific end use(s)

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

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible maximum concentration	Basis
Hydrogen peroxide solution	7722-84-1	LPP	0,9 ppm 1,23 mg/m <sup>3</sup>	CL OEL

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	Further information: Substances classified as 'A.3', have not been shown to be carcinogenic to humans but they are carcinogenic to laboratory animals		
	TWA	1 ppm	ACGIH

**Occupational exposure limits of decomposition products**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Acetylacetone	123-54-6	TWA	25 ppm	ACGIH
Carbon dioxide	124-38-9	LPP	4.375 ppm 7.875 mg/m <sup>3</sup>	CL OEL
		LPT	30.000 ppm 54.000 mg/m <sup>3</sup>	CL OEL
		TWA	5.000 ppm	ACGIH
		STEL	30.000 ppm	ACGIH

**Appropriate technical controls** : 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

Skin protection : Protective suit

Hand protection

Material : Neoprene

Material : Nitrile rubber

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****Information on basic physical and chemical properties**

Appearance : Clear liquid



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Colour	:	colourless
Odour	:	Faint.
Odour Threshold	:	No data available
pH	:	Not applicable
Melting point	:	<= -10 °C
Boiling point/boiling range	:	Decomposes below the boiling point.
Flash point	:	Above the SADT value No flash point was obtained, but the product may release flammable vapour.
Evaporation rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	1 hPa (20 °C)
Vapour density	:	No data available
Relative density	:	1,055 (20 °C)
Solubility(ies) Water solubility	:	miscible (20 °C)
Partition coefficient: n-octanol/water	:	No data available
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

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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.

Viscosity  
Viscosity, dynamic : 21 mPa.s ( 20 °C)  
Viscosity, kinematic : 19,91 mm<sup>2</sup>/s ( 20 °C)

Explosive properties : Not explosive

Oxidizing properties : Not classified as oxidising.

**Other information**

Flammability (liquids) : Decomposition products may be flammable.

Bulk density : Not applicable

Self-Accelerating decomposition temperature (SADT) : 60 °C

Active Oxygen Content : 4,0 - 4,2 %

Organic peroxides : 33 %

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Stable under normal conditions.

Chemical stability : Stable under recommended storage conditions.

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

Conditions to avoid : A high degree of confinement must be avoided.  
Heat, flames and sparks.

Incompatible materials : Contact with the following incompatible materials will result in hazardous decomposition:  
Acids and bases  
Iron

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		<p>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.</p>
Hazardous decomposition products	:	No decomposition if stored and applied as directed.
Hazardous decomposition products	:	Acetylacetone Hydrocarbons Carbon dioxide 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)	:	60 °C

## SECTION 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

Not classified based on available information.

**Product:**

Acute oral toxicity	:	LD50(Rat): > 2.000 mg/kg Method: OECD Test Guideline 401 Assessment: The component/mixture is minimally toxic after single ingestion.
Acute inhalation toxicity	:	LC50(Rat, male): > 13,1 mg/l Exposure time: 1 h Test atmosphere: aerosol Assessment: The substance or mixture has no acute

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inhalation toxicity

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

**Components:**

**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  
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

**Acetylacetone peroxide:**

Acute oral toxicity : LD50 (Rat, male and female): > 2.000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute inhalation toxicity : LC50 (Rat, male): > 13,1 mg/l  
Exposure time: 1 h  
Test atmosphere: aerosol  
Assessment: The substance or mixture has no acute inhalation toxicity

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

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**Diethylene glycol:**

Acute oral toxicity : LD50 Oral (Rat, male and female): > 300 - 2.000 mg/kg

**Acetylacetone:**

Acute oral toxicity : LD50 (Rat, female): 570 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): 5,1 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit, female): 790 mg/kg

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

**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  
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

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Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

**Acetylacetone peroxide:**

Acute oral toxicity : LD50 (Rat, male and female): > 2.000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute inhalation toxicity : LC50 (Rat, male): > 13,1 mg/l  
Exposure time: 1 h  
Test atmosphere: aerosol  
Assessment: The substance or mixture has no acute inhalation toxicity

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

**Diethylene glycol:**

Acute oral toxicity : LD50 Oral (Rat, male and female): > 300 - 2.000 mg/kg

**Acetylacetone:**

Acute oral toxicity : LD50 (Rat, female): 570 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): 5,1 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit, female): 790 mg/kg

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

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

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

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Method : OECD Test Guideline 404  
Result : No skin irritation

**Components:****Diacetone alcohol:**

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

**Acetylacetone peroxide:**

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

**Diethylene glycol:**

Species : Rabbit  
Exposure time : 23 h  
Method : Draize Test  
Result : No skin irritation  
Remarks : Information taken from reference works and the literature.

**Acetylacetone:**

Species : Rabbit  
Result : No skin irritation

**Hydrogen peroxide solution:**

Result : Causes severe burns.

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**Diacetone alcohol:**

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

**Acetylacetone peroxide:**

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

**Diethylene glycol:**

Species : Rabbit  
Exposure time : 23 h  
Method : Draize Test  
Result : No skin irritation  
Remarks : Information taken from reference works and the literature.

**Acetylacetone:**

Species : Rabbit  
Result : No skin irritation

**Hydrogen peroxide solution:**

Result : Causes severe burns.

**Serious eye damage or eye irritation**

Causes serious eye irritation.

**Product:**

Method : OECD Test Guideline 405  
Result : Irritating to eyes.

**Components:****Diacetone alcohol:**

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

**Acetylacetone peroxide:**



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

**Diethylene glycol:**

Species : Rabbit  
Exposure time : 24 h  
Result : No eye irritation  
Remarks : Information taken from reference works and the literature.

**Acetylacetone:**

Species : Rabbit  
Result : No eye irritation

**Hydrogen peroxide solution:**

Assessment : Causes severe burns.

**Diacetone alcohol:**

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

**Acetylacetone peroxide:**

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

**Diethylene glycol:**

Species : Rabbit  
Exposure time : 24 h  
Result : No eye irritation  
Remarks : Information taken from reference works and the literature.

**Acetylacetone:**

Species : Rabbit  
Result : No eye irritation

**Hydrogen peroxide solution:**

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Assessment : Causes severe burns.

**Respiratory or skin sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Product:**

Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : The product is a skin sensitiser, sub-category 1B.  
GLP : yes

**Components:****Diacetone alcohol:**

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

**Acetylacetone peroxide:**

Test Type : Maximisation Test  
Species : Guinea pig  
Assessment : The product is a skin sensitiser, sub-category 1B.  
Method : OECD Test Guideline 406  
GLP : yes

Assessment : Eye irritation

May be harmful if swallowed.

**Diethylene glycol:**

Test Type : Maximisation Test  
Species : Guinea pig  
Method : Regulation (EC) No. 440/2008, Annex, B.6  
Result : Does not cause skin sensitisation.  
GLP : yes

**Acetylacetone:**

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Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Assessment : Does not cause skin sensitisation.  
Method : OECD Test Guideline 429  
GLP : yes

**Diacetone alcohol:**

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

**Acetylacetone peroxide:**

Test Type : Maximisation Test  
Species : Guinea pig  
Assessment : The product is a skin sensitiser, sub-category 1B.  
Method : OECD Test Guideline 406  
GLP : yes

Assessment : Eye irritation

May be harmful if swallowed.

**Diethylene glycol:**

Test Type : Maximisation Test  
Species : Guinea pig  
Method : Regulation (EC) No. 440/2008, Annex, B.6  
Result : Does not cause skin sensitisation.  
GLP : yes

**Acetylacetone:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Assessment : Does not cause skin sensitisation.  
Method : OECD Test Guideline 429  
GLP : yes

**Germ cell mutagenicity**

Not classified based on available information.

**Product:**

Genotoxicity in vitro : Test Type: Ames test

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Method: OECD Test Guideline 471  
Result: positive

Method: OECD Test Guideline 474  
Result: negative

Method: OECD Test Guideline 476  
Result: negative

Genotoxicity in vivo : Result: Not mutagenic.

**Components:****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  
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

**Acetylacetone 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: positive  
GLP: yes

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

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

**Acetylacetone:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 479  
Result: positive  
GLP: yes

Test Type: Microbial mutagenesis assay (Ames test)  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: positive  
GLP: yes

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

Genotoxicity in vivo : Test Type: Micronucleus test  
Method: OECD Test Guideline 474  
Result: positive

Test Type: Chromosome aberration test in vivo  
Method: OECD Test Guideline 483  
Result: negative

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Test Type: gene mutation test  
Method: OECD Test Guideline 478  
Result: Ambiguous results

Test Type: Chromosome aberration test in vivo  
Method: OECD Test Guideline 475  
Result: negative

Germ cell mutagenicity - Assessment : Not mutagenic.

**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.

**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  
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

**Acetylacetone 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: positive

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GLP: yes

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

Genotoxicity in vivo

: Test Type: Micronucleus test  
Species: Mouse (male and female)  
Application Route: Intraperitoneal  
Method: OECD Test Guideline 474  
Result: negative  
GLP: yes

**Acetylacetone:**

Genotoxicity in vitro

: Test Type: Ames test  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 479  
Result: positive  
GLP: yes

Test Type: Microbial mutagenesis assay (Ames test)  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: positive  
GLP: yes

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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Genotoxicity in vivo : Test Type: Micronucleus test  
Method: OECD Test Guideline 474  
Result: positive

Test Type: Chromosome aberration test in vivo  
Method: OECD Test Guideline 483  
Result: negative

Test Type: gene mutation test  
Method: OECD Test Guideline 478  
Result: Ambiguous results

Test Type: Chromosome aberration test in vivo  
Method: OECD Test Guideline 475  
Result: negative

Germ cell mutagenicity - Assessment : Not mutagenic.

**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**

Not classified based on available information.

**Components:****Diacetone alcohol:**

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

**Diacetone alcohol:**

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



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**Reproductive toxicity**

Suspected of damaging the unborn child.

**Components:****Diacetone alcohol:**

Effects on fertility

: Test Type: Fertility/early embryonic development  
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.

**Acetylacetone peroxide:**Effects on foetal  
development

: Test Type: Pre-natal  
Species: Rat, females  
Strain: wistar  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 500 mg/kg bw/day  
Developmental Toxicity: NOAEL: 150 mg/kg bw/day  
Method: OECD Test Guideline 414  
GLP: yes

**Diethylene glycol:**

Effects on fertility

: Test Type: Two-generation study  
Species: Mouse, male and female  
Application Route: Oral  
General Toxicity - Parent: NOAEL: 3.060 mg/kg bw/day

Effects on foetal

: Test Type: Pre-natal

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development

Species: Rabbit  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 1.000 mg/kg bw/day  
Method: OECD Test Guideline 414  
GLP: yes

**Acetylacetone:**

Effects on fertility

: Species: Rat  
Application Route: Inhalation  
Dose: 0, 50, 200, 400 ppm  
General Toxicity - Parent: NOAEC: 200 ppm  
Method: OECD Test Guideline 414  
GLP: yes

**Diacetone alcohol:**

Effects on fertility

: Test Type: Fertility/early embryonic development  
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.

**Acetylacetone peroxide:**Effects on foetal  
development

: Test Type: Pre-natal  
Species: Rat, females  
Strain: wistar  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 500 mg/kg bw/day  
Developmental Toxicity: NOAEL: 150 mg/kg bw/day  
Method: OECD Test Guideline 414  
GLP: yes

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**Diethylene glycol:**

Effects on fertility : Test Type: Two-generation study  
Species: Mouse, male and female  
Application Route: Oral  
General Toxicity - Parent: NOAEL: 3.060 mg/kg bw/day

Effects on foetal development : Test Type: Pre-natal  
Species: Rabbit  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 1.000 mg/kg bw/day  
Method: OECD Test Guideline 414  
GLP: yes

**Acetylacetone:**

Effects on fertility : Species: Rat  
Application Route: Inhalation  
Dose: 0, 50, 200, 400 ppm  
General Toxicity - Parent: NOAEC: 200 ppm  
Method: OECD Test Guideline 414  
GLP: yes

**Specific particular organ toxicity - single exposure**

Not classified based on available information.

**Product:**

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

**Components:****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.

**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

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irritation.

**Specific particular organ toxicity - repeated exposure**

Not classified based on available information.

**Product:**

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

**Components:****Diacetone alcohol:**

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

**Diacetone alcohol:**

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

**Repeated dose toxicity****Product:**

Species : Rat  
NOAEL : 300 mg/kg  
Application Route : Oral  
Exposure time : 28 d  
Target Organs : Kidney

**Components:****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

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**Acetylacetone peroxide:**

Species : Rat, male and female  
NOAEL : 1000 mg/kg bw/day  
Application Route : Oral  
Exposure time : 28 d  
Method : OECD Test Guideline 407  
GLP : yes  
Target Organs : Kidney

Species : Rat, male and female  
NOAEL : 250 mg/kg bw/day  
Application Route : Oral  
Exposure time : 90 d  
Method : OECD Test Guideline 408  
GLP : yes

Repeated dose toxicity -  
Assessment : Eye irritation  
May be harmful if swallowed.

**Diethylene glycol:**

Species : Rat, male and female  
NOAEL : 936 mg/kg bw/day  
Application Route : Oral  
Method : OECD Test Guideline 407  
GLP : yes

Species : Dog, male  
NOAEL : 2220 mg/kg bw/day  
Application Route : Dermal  
Method : OECD Test Guideline 410  
GLP : yes

**Acetylacetone:**

Species : Rat, male and female  
NOAEC : 0,42 mg/l  
Application Route : Inhalation  
Test atmosphere : vapour  
Exposure time : 90 d  
Method : OECD Test Guideline 413  
GLP : yes  
Target Organs : Blood, Central nervous system

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**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

**Acetylacetone peroxide:**

Species : Rat, male and female  
NOAEL : 1000 mg/kg bw/day  
Application Route : Oral  
Exposure time : 28 d  
Method : OECD Test Guideline 407  
GLP : yes  
Target Organs : Kidney

Species : Rat, male and female  
NOAEL : 250 mg/kg bw/day  
Application Route : Oral  
Exposure time : 90 d  
Method : OECD Test Guideline 408  
GLP : yes

Repeated dose toxicity -  
Assessment : Eye irritation  
May be harmful if swallowed.

**Diethylene glycol:**

Species : Rat, male and female  
NOAEL : 936 mg/kg bw/day  
Application Route : Oral  
Method : OECD Test Guideline 407  
GLP : yes

Species : Dog, male  
NOAEL : 2220 mg/kg bw/day  
Application Route : Dermal  
Method : OECD Test Guideline 410

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GLP : yes

**Acetylacetone:**

Species : Rat, male and female  
NOAEC : 0,42 mg/l  
Application Route : Inhalation  
Test atmosphere : vapour  
Exposure time : 90 d  
Method : OECD Test Guideline 413  
GLP : yes  
Target Organs : Blood, Central nervous system

**Inhalation hazard**

Not classified based on available information.

**Product:**

No aspiration toxicity classification

**Components:****Diacetone alcohol:**

No aspiration toxicity classification

**Diacetone alcohol:**

No aspiration toxicity classification

**Further information****Product:**

Remarks : No further data available.

**Components:****Acetylacetone:**

Remarks : Solvents may degrease the skin.

**Hydrogen peroxide solution:**

Remarks : No further data available.

**Acetylacetone:**

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Remarks : Solvents may degrease the skin.

**Hydrogen peroxide solution:**

Remarks : No further data available.

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**SECTION 12. ECOLOGICAL INFORMATION****Toxicity****Product:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 67,6 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7,1 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 5,4 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition  
Method: OECD Test Guideline 201

**Components:****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



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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

**Acetylacetone peroxide:**

Toxicity to fish : LC50 (*Danio rerio* (zebra fish)): > 67,6 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 7,1 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
GLP: yes

Toxicity to algae/aquatic plants : ErC50 ( *Pseudokirchneriella subcapitata* (green algae)): 5,4 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition  
Method: OECD Test Guideline 201  
GLP: yes

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50: 13 mg/l  
End point: Immobilization  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Method: OECD Test Guideline 211  
GLP: yes

**Diethylene glycol:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 75.200 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Analytical monitoring: yes

Toxicity to fish (Chronic toxicity) : NOEC: 15.380 mg/l  
Exposure time: 7 d  
Species: Pimephales promelas (fathead minnow)  
Remarks: Information taken from reference works and the literature.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 8.590 mg/l  
Species: Ceriodaphnia dubia (water flea)  
Remarks: Information taken from reference works and the literature.

**Acetylacetone:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 104 mg/l  
End point: mortality  
Exposure time: 96 h  
Test Type: flow-through test  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 25,9 mg/l  
End point: Immobilization  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
GLP: yes

Toxicity to algae/aquatic plants : EC50 ( Pseudokirchneriella subcapitata (microalgae)): 83,2 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test

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- Method: OECD Test Guideline 201  
GLP: yes
- Toxicity to microorganisms : EC10 (activated sludge): 13,2 mg/l  
Exposure time: 3 h  
Test Type: static test  
Method: OECD Test Guideline 209  
GLP: yes
- EC50 (activated sludge): 107,6 mg/l  
Exposure time: 3 h  
Test Type: static test  
Method: OECD Test Guideline 209  
GLP: yes
- Toxicity to fish (Chronic toxicity) : NOEC: 10 mg/l  
Exposure time: 34 d  
Species: Pimephales promelas (fathead minnow)  
Test Type: flow-through test  
Method: OECD Test Guideline 210  
GLP: yes
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 18 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 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

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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.

**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

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Method: OECD Test Guideline 211  
GLP: yes

**Acetylacetone peroxide:**

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 67,6 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203  
GLP: yes
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7,1 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
GLP: yes
- Toxicity to algae/aquatic plants : ErC50 ( Pseudokirchneriella subcapitata (green algae)): 5,4 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition  
Method: OECD Test Guideline 201  
GLP: yes
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50: 13 mg/l  
End point: Immobilization  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Method: OECD Test Guideline 211  
GLP: yes

**Diethylene glycol:**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 75.200 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Analytical monitoring: yes
- Toxicity to fish (Chronic toxicity) : NOEC: 15.380 mg/l  
Exposure time: 7 d  
Species: Pimephales promelas (fathead minnow)  
Remarks: Information taken from reference works and the literature.
- Toxicity to daphnia and other aquatic invertebrates : NOEC: 8.590 mg/l  
Species: Ceriodaphnia dubia (water flea)



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aquatic invertebrates  
(Chronic toxicity)      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 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.

**Persistence and degradability****Product:**

Biodegradability      :    Result: Readily biodegradable.

**Components:****Diacetone alcohol:**

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

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**Acetylacetone peroxide:**

Biodegradability : Ready biodegradability  
Inoculum: Activated sludge, domestic, non-adapted  
Chemical oxygen demand  
Result: Readily biodegradable.  
Biodegradation: 61 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D  
GLP: yes

**Diethylene glycol:**

Biodegradability : CO2 Evolution Test  
Inoculum: activated sludge, non-adapted  
Result: Readily biodegradable.  
Biodegradation: 70 - 80 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

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

**Acetylacetone:**

Biodegradability : Ready biodegradability  
Inoculum: activated sludge  
Result: Readily biodegradable.  
Biodegradation: > 80 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C

**Hydrogen peroxide solution:**

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

**Diacetone alcohol:**

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

**Acetylacetone peroxide:**

Biodegradability : Ready biodegradability



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Inoculum: Activated sludge, domestic, non-adapted  
 Chemical oxygen demand  
 Result: Readily biodegradable.  
 Biodegradation: 61 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 301D  
 GLP: yes

**Diethylene glycol:**

Biodegradability : CO2 Evolution Test  
 Inoculum: activated sludge, non-adapted  
 Result: Readily biodegradable.  
 Biodegradation: 70 - 80 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 301B

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

**Acetylacetone:**

Biodegradability : Ready biodegradability  
 Inoculum: activated sludge  
 Result: Readily biodegradable.  
 Biodegradation: > 80 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 301C

**Hydrogen peroxide solution:**

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

**Bioaccumulative potential****Components:****Diacetone alcohol:**

Bioaccumulation : Remarks: No bioaccumulation is expected.

Partition coefficient: n-octanol/water : log Pow: -0,09  
 Remarks: estimated

**Acetylacetone peroxide:**

Partition coefficient: n- : log Pow: 1,1 (25 °C)

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octanol/water      Method: OECD Test Guideline 117

**Diethylene glycol:**

Bioaccumulation      :    Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-  
octanol/water      :    log Pow: -1,98 (20 °C)

**Acetylacetone:**

Partition coefficient: n-  
octanol/water      :    log Pow: 0,68  
Method: Tested according to Annex V of Directive  
67/548/EEC.

**Hydrogen peroxide solution:**

Bioaccumulation      :    Remarks: Bioaccumulation is unlikely.

**Diacetone alcohol:**

Bioaccumulation      :    Remarks: No bioaccumulation is expected.

Partition coefficient: n-  
octanol/water      :    log Pow: -0,09  
Remarks: estimated

**Acetylacetone peroxide:**

Partition coefficient: n-  
octanol/water      :    log Pow: 1,1 (25 °C)  
Method: OECD Test Guideline 117

**Diethylene glycol:**

Bioaccumulation      :    Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-  
octanol/water      :    log Pow: -1,98 (20 °C)

**Acetylacetone:**

Partition coefficient: n-  
octanol/water      :    log Pow: 0,68  
Method: Tested according to Annex V of Directive  
67/548/EEC.

**Hydrogen peroxide solution:**

Bioaccumulation      :    Remarks: Bioaccumulation is unlikely.

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**Mobility in soil****Components:****Diethylene glycol:**

Mobility : Remarks: Adsorption to the solid soil particles is not expected.

**Hydrogen peroxide solution:**

Mobility : Remarks: Can be leached out from soil.

Distribution among environmental compartments : Remarks: Transport to air is not expected.

**Diethylene glycol:**

Mobility : Remarks: Adsorption to the solid soil particles is not expected.

**Hydrogen peroxide solution:**

Mobility : Remarks: Can be leached out from soil.

Distribution among environmental compartments : Remarks: Transport to air is not expected.

**Other adverse effects****Product:**

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

**Components:****Diethylene glycol:**Results of PBT and vPvB assessment : This substance is not considered to be a PBT (Persistent, Bioaccumulation, Toxic)  
This substance is not considered to be vPvB (very Persistent nor very Bioaccumulating)**Acetylacetone:**

Additional ecological information : None known.

**Hydrogen peroxide solution:**

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Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).  
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

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.

**Diethylene glycol:**

Results of PBT and vPvB assessment : This substance is not considered to be a PBT (Persistent, Bioaccumulation, Toxic)  
This substance is not considered to be vPvB (very Persistent nor very Bioaccumulating)

**Acetylacetone:**

Additional ecological information : None known.

**Hydrogen peroxide solution:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).  
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

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.

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**SECTION 13. DISPOSAL CONSIDERATIONS****Waste treatment methods**

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Dispose of contents/container in accordance with local regulation.

Contaminated packaging, : Empty remaining contents.

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and contaminated material      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****International Regulations****UNRTDG**

UN number : UN 3107  
Proper shipping name : ORGANIC PEROXIDE TYPE E, LIQUID  
(Acetylacetone peroxide)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2

**IATA-DGR**

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

**IMDG-Code**

UN number : UN 3107  
Proper shipping name : ORGANIC PEROXIDE TYPE E, LIQUID  
(Acetylacetone peroxide)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2  
EmS Code : F-J, S-R  
Marine pollutant : no  
Remarks : CA-1998100016(ILT/VV/18-4995)

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**National Regulations****NCh382**

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UN number : UN 3107  
 Proper shipping name : ORGANIC PEROXIDE TYPE E, LIQUID  
 (Acetylacetone peroxide)  
 Class : 5.2  
 Packing group : Not assigned by regulation  
 Labels : 5.2  
 Environmentally hazardous : no

### 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.

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## SECTION 15. REGULATORY INFORMATION

### National Regulations

Chile. Decree 190. Carcinogenic Substances, Hazardous Waste Management. : Not applicable

Decree 1358 - Establishment of rules governing the control measures of precursors and essential chemicals. : Not applicable

Resolution 408/16 Exempt, Approving List of Health Hazardous Substances : Included in list of Article 3, item a)

### Other regulations

Decree 43/2015, Approving Regulation on Storage of Hazardous Substances  
 NCh2245: 2015; NCh382: 2013; NCh2190 Of 2003; NCh1411 / 4: 2000; DS 43: 2015 of MINSAL; DS 298: 1998 of the Ministry of Transport; DS148: 2003 of MINSAL; Resolution 408: 2016 of the MINSAL and GHS (Globally Harmonized System).

Decree 43/2015, Approving Regulation on Storage of Hazardous Substances  
 NCh 2245:2021 Safety data sheet for chemical products - Content and order of sections

NCh 2190:2019 Land transport of dangerous goods - Hazard identification marks

NCh 382:2021 Dangerous Goods – Classification

Decree 57 of 2019, Regulation on Classification, Labeling, and Notification of Hazardous Chemicals and Mixtures

D.S. 148/03 Sanitary Regulation on hazardous wastes handling

D.S. 298/94 Regulation on transport of hazardous cargo on streets and roads

D.S. 594/99 Regulation on sanitary and environmental basic conditions at work places

### International Regulations

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

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TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or 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

The receiver should verify the possible existence of legal regulations applicable to chemical.

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**SECTION 16. OTHER INFORMATION**

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**Full text of H-Statements**

H226	:	Flammable liquid and vapour.
H242	:	Heating may cause a fire.
H271	:	May cause fire or explosion; strong oxidizer.
H302	:	Harmful if swallowed.
H311	:	Toxic in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H361d	:	Suspected of damaging the unborn child.
H412	:	Harmful to aquatic life with long lasting effects.

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**Further information**

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

**Abbreviations and acronyms**

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Eye Dam./Irrit.	: Serious eye damage/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
ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
CL OEL	: Chile. Regulation on basic sanitary and environmental conditions in the workplace

ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
CL OEL / LPP	: Time Weighted Limit Value
CL OEL / LPT	: Short Term Limit Value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of



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Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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

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