

## SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

### TRIGONOX K-90 (<200 kg packaging)

Version	Revision Date:	CN / EN	Date of last issue: 2022/12/02
6.0	2023/06/29		Date of first issue: 2015/05/01

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#### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TRIGONOX K-90 (<200 kg packaging)

:

##### Manufacturer or supplier's details

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

Address : Haaksbergweg 88  
Amsterdam 1101 BZ

Telephone : +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

E-mail address : polymer.emeia@nouryon.com

##### Recommended use of the chemical and restrictions on use

Recommended use : Polymerization initiator

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#### 2. HAZARDS IDENTIFICATION

##### Emergency Overview

<b>Appearance</b>	: Clear liquid
<b>Colour</b>	: colourless
<b>Odour</b>	: pungent

Heating may cause a fire. Harmful if swallowed or in contact with skin. Causes severe skin burns and eye damage. Toxic if inhaled. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

##### GHS Classification

Organic peroxides : Type F

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Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 3
Acute toxicity (Dermal)	:	Category 4
Skin corrosion/irritation	:	Category 1B
Serious eye damage/eye irritation	:	Category 1
Carcinogenicity	:	Category 1B
Specific target organ toxicity - repeated exposure	:	Category 2
Short-term (acute) aquatic hazard	:	Category 2
Long-term (chronic) aquatic hazard	:	Category 2

#### GHS label elements

Hazard pictograms	:	
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Signal word	:	Danger
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Hazard statements	:	<p>H242 Heating may cause a fire.  H302 + H312 Harmful if swallowed or in contact with skin.  H314 Causes severe skin burns and eye damage.  H331 Toxic if inhaled.  H350 May cause cancer.  H373 May cause damage to organs through prolonged or repeated exposure.  H411 Toxic to aquatic life with long lasting effects.</p>
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Precautionary statements	:	<p><b>Prevention:</b>  P201 Obtain special instructions before use.  P202 Do not handle until all safety precautions have been read</p>
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and understood.

P210 Keep away from heat/ sparks/ open flames/ hot surfaces.  
No smoking.

P220 Keep/ Store away from clothing/ combustible materials.

P234 Keep only in original container.

P235 Keep cool.

P260 Do not breathe mist or vapours.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye  
protection/ face protection.

#### Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON  
CENTER/ doctor if you feel unwell. Rinse mouth.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT  
induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off  
immediately all contaminated clothing. Rinse skin with water/  
shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air  
and keep comfortable for breathing. Immediately call a  
POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with  
water for several minutes. Remove contact lenses, if present  
and easy to do. Continue rinsing. Immediately call a POISON  
CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical advice/  
attention.

P362 + P364 Take off contaminated clothing and wash it before  
reuse.

P370 + P378 In case of fire: Use water spray, alcohol-resistant  
foam, dry chemical or carbon dioxide to extinguish.

P391 Collect spillage.

#### Storage:

P403 + P233 Store in a well-ventilated place. Keep container  
tightly closed.

P405 Store locked up.

P410 Protect from sunlight.

P420 Store away from other materials.

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#### Disposal:

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

#### Physical and chemical hazards

Heating may cause a fire.

#### Health hazards

Harmful if swallowed. Toxic if inhaled. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. May cause cancer. May cause damage to organs through prolonged or repeated exposure.

#### Environmental hazards

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

#### Other hazards which do not result in classification

None known.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Substance
Substance name	:	$\alpha,\alpha$ -dimethylbenzyl hydroperoxide
CAS-No.	:	80-15-9
Synonyms	:	$\alpha,\alpha$ -dimethylbenzyl hydroperoxide

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
Cumyl hydroperoxide	80-15-9	$\geq 87$ - $\leq 90$
2-Phenylisopropanol	617-94-7	$\geq 5$ - $\leq 10$
Cumene	98-82-8	$\geq 1$ - $\leq 5$
Acetophenone	98-86-2	$\geq 1$ - $\leq 2$
Dicumyl peroxide	80-43-3	$< 0.6$

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### 4. 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.
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- Symptoms of poisoning may appear several hours later.
- If inhaled : If breathed in, move person into fresh air.  
Call a physician or poison control centre immediately.  
Remove to fresh air.  
Keep patient warm and at rest.  
If unconscious, place in recovery position and seek medical advice.  
Keep respiratory tract clear.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
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.
- Most important symptoms and effects, both acute and delayed : corrosive effects  
Harmful if swallowed or in contact with skin.  
Causes serious eye damage.  
Toxic if inhaled.  
May cause cancer.  
May cause damage to organs through prolonged or repeated exposure.  
Causes severe burns.
- Notes to physician : Treat symptomatically.

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#### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
  
- 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 : Carbon oxides
  
- 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.
  
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

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

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with water.  
 Confinement must be avoided.  
 Never return spills in original containers for re-use.

Prevention of secondary hazards : Evacuate personnel to safe areas.  
 Only qualified personnel equipped with suitable protective equipment may intervene.  
 Prevent unauthorised persons entering the zone.

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## 7. HANDLING AND STORAGE

### Handling

Advice on protection against fire and explosion : 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, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).  
 Do not cut or weld on or near this container even when empty.  
 Keep away from combustible material.

Advice on safe handling : For personal protection see section 8.  
 Avoid formation of aerosol.  
 Do not breathe vapours or spray mist.  
 Smoking, eating and drinking should be prohibited in the application area.  
 Provide sufficient air exchange and/or exhaust in work rooms.  
 Open drum carefully as content may be under pressure.  
 Dispose of rinse water in accordance with local and national regulations.  
 Obtain special instructions before use.

Avoidance of contact : 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.

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Use only stainless steel 316, PP, polyethylene or glass-lined equipment.  
For queries regarding the suitability of other materials please contact the supplier.

#### Storage

Conditions for safe storage : 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 : If product freezes or separates, contact the manufacturer.

Maximum storage temperature is for quality only.

Minimum storage temperature: : Avoid temperatures below:  
-25 °C

Maximum storage temperature: : 40 °C

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

#### Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Acetophenone	98-86-2	TWA	10 ppm	ACGIH

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



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#### Personal protective equipment

Respiratory protection	:	In the case of vapour or aerosol formation use a respirator with an approved filter. Filter A
Eye/face protection	:	Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Protective suit
Hand protection	:	
Material	:	Neoprene
Material	:	Nitrile rubber
Hygiene measures	:	Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

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#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Clear liquid
Colour	:	colourless
Odour	:	pungent
Odour Threshold	:	No data available
pH	:	4 - 7
Melting point/range	:	-30 °C
Boiling point	:	Decomposition: Decomposes below the boiling point.

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Decomposes.

Flash point	:	Above the SADT value No flash point was obtained, but the product may release flammable vapour.
Evaporation rate	:	No data available
Flammability (liquids)	:	Decomposition products may be flammable.
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	0.4 kPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	expected to be: approx. 1.06 g/cm <sup>3</sup>
Solubility(ies)		
Water solubility	:	miscible (20 °C)
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	Test method not applicable
Decomposition temperature	:	No data available
Self-Accelerating decomposition temperature (SADT)	:	75 °C
Viscosity		
Viscosity, dynamic	:	10.9 mPa.s (20 °C)
Viscosity, kinematic	:	No data available

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Explosive properties : Not explosive

Oxidizing properties : Not applicable

Active Oxygen Content : 9.1 - 9.5 %

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#### 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  
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.

Hazardous decomposition products : No decomposition if stored and applied as directed.

Hazardous decomposition products : Acetophenone  
Methane  
2-Phenylisopropanol

Thermal decomposition : No data available

Self-Accelerating : 75 °C

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decomposition temperature  
(SADT)

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#### 11. TOXICOLOGICAL INFORMATION

##### Acute toxicity

Harmful if swallowed or in contact with skin.  
Toxic if inhaled.

##### Product:

Acute oral toxicity : Acute toxicity estimate: 411.56 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 3.35 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: 1,228 mg/kg  
Method: Calculation method

##### Components:

##### **Cumyl hydroperoxide:**

Acute oral toxicity : LD50 Oral (Rat, male): 382 mg/kg

Acute inhalation toxicity : LC50: 1.370 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rat): 1,200 - 1,520 mg/kg  
: LD50 (Rabbit): 134 mg/kg

##### **2-Phenylisopropanol:**

Acute oral toxicity : LD50 (Rat): 1,300 mg/kg  
Remarks: Information taken from reference works and the literature.

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#### Cumene:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

#### Acetophenone:

Acute oral toxicity : LD50: 301 - 2,000 mg/kg

#### Dicumyl peroxide:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

#### Skin corrosion/irritation

Causes severe burns.

#### Components:

##### Cumyl hydroperoxide:

Species : Rabbit  
Assessment : Category 1B  
Result : Causes burns.

##### 2-Phenylisopropanol:

Assessment : Irritating to skin.  
Remarks : Information taken from reference works and the literature.

##### Dicumyl peroxide:

Assessment : Irritating to skin.  
Remarks : Irritating to skin.

#### Serious eye damage/eye irritation

Causes serious eye damage.

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#### Components:

##### **Cumyl hydroperoxide:**

Assessment : Causes severe skin burns and eye damage.

##### **2-Phenylisopropanol:**

Assessment : Irritating to eyes.  
Remarks : Information taken from reference works and the literature.

##### **Acetophenone:**

Assessment : Irritating to eyes.

##### **Dicumyl peroxide:**

Assessment : Mild eye irritation  
Remarks : Causes eye irritation.

#### **Respiratory or skin sensitisation**

##### **Skin sensitisation**

Not classified based on available information.

##### **Respiratory sensitisation**

Not classified based on available information.

#### Components:

##### **Cumyl hydroperoxide:**

Result : Not sensitizing.

##### **Dicumyl peroxide:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : Not a skin sensitizer.

#### **Germ cell mutagenicity**

Not classified based on available information.

#### Components:

##### **Cumyl hydroperoxide:**

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Genotoxicity in vitro : Result: Evidence of genotoxic effects in vitro.

Genotoxicity in vivo : Result: No evidence of genotoxic effects in vivo.

Germ cell mutagenicity - Assessment : Not mutagenic.

#### Cumene:

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  
 GLP: yes

: Test Type: unscheduled DNA synthesis assay  
 Test system: rat hepatocytes  
 Metabolic activation: no  
 Method: OECD Test Guideline 482  
 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: negative  
 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  
 Species: Mouse (male and female)  
 Application Route: inhalation (gas)  
 Method: OECD Test Guideline 474  
 Result: negative  
 GLP: yes

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: Test Type: Micronucleus test  
 Species: Rat (male)  
 Application Route: Intraperitoneal  
 Method: OECD Test Guideline 474  
 Result: Ambiguous results  
 GLP: yes

#### Dicumyl peroxide:

Genotoxicity in vitro

: Test Type: reverse mutation assay  
 Metabolic activation: with and without metabolic activation  
 Method: OECD Test Guideline 471  
 Result: negative

: Test Type: In vitro cytogenicity study in mammalian cells  
 Test system: Chinese hamster lung cells  
 Metabolic activation: with and without metabolic activation  
 Method: OECD Test Guideline 473  
 Result: negative

: Test Type: In vitro mammalian cell gene mutation test  
 Test system: Chinese hamster lung fibroblasts  
 Metabolic activation: with and without metabolic activation  
 Method: OECD Test Guideline 476  
 Result: negative

#### Carcinogenicity

May cause cancer.

#### Components:

##### Cumyl hydroperoxide:

Remarks : No data available

##### Cumene:

Species : Rat, male and female  
 Application Route : inhalation (vapour)  
 Activity duration : 6 hrs  
 Result : carcinogenic effects  
 Symptoms : adenocarcinoma, kidney tumors

Species : Mouse, male and female  
 Application Route : inhalation (vapour)



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Activity duration : 6 hrs  
 Result : carcinogenic effects  
 Symptoms : adenocarcinoma

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

#### Reproductive toxicity

Not classified based on available information.

#### Components:

##### **Cumene:**

Effects on fertility : Species: Rat, male  
 Application Route: inhalation (vapour)  
 General Toxicity - Parent: NOAEL: >= 1,200 ppm  
 GLP: yes

Effects on foetal development : Species: Rat, male and female  
 Application Route: inhalation (vapour)  
 General Toxicity Maternal: NOAEL: 100 ppm  
 Developmental Toxicity: NOAEL: > 1,200 ppm  
 Method: OECD Test Guideline 414  
 GLP: yes

Species: Rabbit, male and female  
 Application Route: inhalation (vapour)  
 General Toxicity Maternal: LOAEL: 500 ppm  
 Developmental Toxicity: NOAEL: 2,300 ppm  
 Method: OECD Test Guideline 414  
 GLP: yes

##### **Dicumyl peroxide:**

Effects on foetal development : Species: Rat  
 General Toxicity Maternal: NOAEL: 150 mg/kg bw/day  
 Developmental Toxicity: NOAEL: 150 mg/kg bw/day  
 Method: OECD Test Guideline 414  
 Remarks: Adverse developmental effects were observed

Species: Rabbit  
 General Toxicity Maternal: NOAEL: 50 mg/kg bw/day  
 Developmental Toxicity: NOAEL: 150 mg/kg bw/day  
 Method: OECD Test Guideline 414

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Remarks: No significant adverse effects were reported

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

#### STOT - single exposure

Not classified based on available information.

#### Components:

##### Cumene:

Exposure routes : Inhalation  
Assessment : May cause respiratory irritation.

##### Dicumyl peroxide:

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

#### STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

#### Components:

##### Cumyl hydroperoxide:

Exposure routes : Inhalation  
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

##### Dicumyl peroxide:

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

#### Repeated dose toxicity

#### Components:

##### Dicumyl peroxide:

Species : Rat  
NOAEL : 80 mg/kg bw/day  
Method : OECD Test Guideline 408

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#### Aspiration toxicity

Not classified based on available information.

#### Components:

##### Cumene:

May be fatal if swallowed and enters airways.

#### Further information

#### Product:

Remarks : No further data available.

#### Components:

##### Cumyl hydroperoxide:

Remarks : May cause damage to organs through prolonged or repeated exposure.

##### Cumene:

Remarks : Solvents may degrease the skin.

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## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

#### Components:

##### Cumyl hydroperoxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.9 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 : NOEC (Daphnia (water flea)): 9.15 mg/l  
 End point: Immobilization  
 Exposure time: 48 h  
 Test Type: static test  
 Method: OECD Test Guideline 202  
 GLP: yes

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	EC50 (Daphnia (water flea)): 18.84 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 (Desmodesmus subspicatus (green algae)): 3.1 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
	NOEC (Desmodesmus subspicatus (green algae)): 1.0 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
Toxicity to microorganisms	: Toxicity Threshold (EC3) (Pseudomonas putida): > 50 mg/l Exposure time: 16 h Test Type: Growth inhibition
<b>2-Phenylisopropanol:</b>	
Toxicity to fish	: LC50 (Fish): Remarks: No data available
<b>Cumene:</b>	
Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 4.8 mg/l Exposure time: 96 h Test Type: flow-through test
	LC50 (Cyprinodon variegatus (sheepshead minnow)): 4.7 mg/l Exposure time: 96 h Test Type: flow-through test
	NOEC (Fish): 0.38 mg/l Exposure time: 28 d Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models

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(CAESAR models), etc.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.14 mg/l  
 Exposure time: 48 h  
 Test Type: static test  
 Method: OECD Test Guideline 202  
 GLP: yes

EC50 (Mysidopsis bahia (opossum shrimp)): 1.2 mg/l  
 Exposure time: 96 h  
 Test Type: static test  
 Method: OECD Test Guideline 202  
 GLP: yes

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 2.01 mg/l  
 Exposure time: 72 h  
 Test Type: static test  
 Method: OECD Test Guideline 201  
 GLP: yes

NOEC (Desmodesmus subspicatus (green algae)): 1.49 mg/l  
 Exposure time: 72 h  
 Test Type: static test  
 Method: OECD Test Guideline 201  
 GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.35 mg/l  
 Exposure time: 21 d  
 Test Type: static test  
 Method: OECD Test Guideline 211  
 GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): > 2,000 mg/l  
 Exposure time: 3 h  
 Test Type: Respiration inhibition  
 Method: OECD Test Guideline 209  
 GLP: yes

#### Dicumyl peroxide:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 0.469 mg/l  
 Exposure time: 96 h  
 Test Type: semi-static test  
 Method: OECD Test Guideline 203

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GLP: yes  
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.397 mg/l  
Exposure time: 48 h  
Test Type: semi-static test  
Method: OECD Test Guideline 202  
GLP: yes  
Remarks: No toxicity at the limit of solubility

Toxicity to algae/aquatic plants : (Pseudokirchneriella subcapitata (green algae)): Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
GLP: yes  
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.117 mg/l  
End point: reproduction rate  
Exposure time: 21 d  
Test Type: semi-static test  
Method: OECD Test Guideline 211  
GLP: yes

Toxicity to microorganisms : NOEC (activated sludge): > 1,000 mg/l  
Exposure time: 0.5 h  
Test Type: static test  
Method: OECD Test Guideline 209  
GLP: yes

#### Persistence and degradability

##### Product:

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

##### Components:

##### **Cumyl hydroperoxide:**

Biodegradability : Result: Not readily biodegradable.

##### **Cumene:**

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Biodegradability : anaerobic  
 Inoculum: activated sludge, non-adapted  
 Result: Not biodegradable

aerobic  
 Inoculum: Domestic sewage, non-adapted  
 Result: Readily biodegradable.

#### Dicumyl peroxide:

Biodegradability : Ready biodegradability  
 Inoculum: Activated sludge, domestic, non-adapted  
 Concentration: 20 mg/l  
 Result: Not readily biodegradable.  
 Biodegradation: 44 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 301F  
 GLP: yes

#### Bioaccumulative potential

##### Components:

#### Cumyl hydroperoxide:

Bioaccumulation : Bioconcentration factor (BCF): < 1

Partition coefficient: n-octanol/water : Pow: 39.8 (20 °C)

#### Dicumyl peroxide:

Bioaccumulation : Species: Cyprinus carpio (Carp)  
 Bioconcentration factor (BCF): 137 - 1,470  
 Exposure time: 56 d  
 Temperature: 25 °C  
 Concentration: 0.01 mg/l  
 Method: OECD Test Guideline 305C

#### Mobility in soil

##### Product:

Mobility : Medium: Soil  
 Remarks: No data available

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#### Other adverse effects

##### **Product:**

Results of PBT and vPvB assessment : Not classified as PBT or vPvB

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

##### **Components:**

##### **Cumyl hydroperoxide:**

Results of PBT and vPvB assessment : Not classified as PBT or vPvB

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

##### **Cumene:**

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)

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

##### **Dicumyl peroxide:**

Results of PBT and vPvB assessment : Not classified as PBT or vPvB

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### 13. DISPOSAL CONSIDERATIONS

#### **Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with



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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.

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#### 14. TRANSPORT INFORMATION

##### International Regulations

##### UNRTDG

UN number : UN 3109  
 Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID  
 (Cumyl hydroperoxide, 88%)  
 Class : 5.2  
 Subsidiary risk : 8  
 Packing group : Not assigned by regulation  
 Labels : 5.2 (8)

##### IATA-DGR

UN/ID No. : UN 3109  
 Proper shipping name : Organic peroxide type F, liquid  
 (Cumyl hydroperoxide, 88%)  
 Class : 5.2  
 Subsidiary risk : 8  
 Packing group : Not assigned by regulation  
 Labels : Organic Peroxides, Corrosives, Keep Away From Heat  
 Packing instruction (cargo aircraft) : 570  
 Packing instruction (passenger aircraft) : 570  
 Environmentally hazardous : yes

##### IMDG-Code

UN number : UN 3109  
 Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID  
 (Cumyl hydroperoxide, 88%, Cumyl hydroperoxide)  
 Class : 5.2  
 Subsidiary risk : 8

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Packing group : Not assigned by regulation  
 Labels : 5.2 (8)  
 EmS Code : F-J, S-R  
 Marine pollutant : yes

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

Not applicable for product as supplied.

#### National Regulations

##### GB 6944/12268

UN number : UN 3109  
 Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID  
 (Cumyl hydroperoxide, 88%)  
 Class : 5.2  
 Subsidiary risk : 8  
 Packing group : Not assigned by regulation  
 Labels : 5.2 (8)

#### 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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## 15. REGULATORY INFORMATION

#### National regulatory information

##### Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed

##### Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

No. / Code	Chemical name / Category	Threshold quantity
W7.2	Organic peroxides	50 t

#### Yangtze River Protection Law

This product does not contain any dangerous chemicals prohibited for inland river transport.

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

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

TSCA : All substances listed as active on the TSCA inventory

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

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#### 16. OTHER INFORMATION

Revision Date : 2023/06/29

##### Further information

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

Date format : yyyy/mm/dd

##### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

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 -

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Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

#### Disclaimer

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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