

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

## TRIGONOX B

Version 1

Revision Date 27.05.2021

Print Date 14.03.2023

FI / EN

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

Trade name : TRIGONOX B

REACH Registration Number : 01-2119513335-48

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

Use of the Substance/Mixture : Specific use(s): Polymerisation inhibitor  
Cross-linking agent

#### 1.3 Details of the supplier of the safety data sheet

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

Telephone : +31889840367  
Telefax :  
E-mail address : polymer.emeia@nouryon.com

#### 1.4 Emergency telephone number

Emergency telephone number : 24 hours:+31 57 06 79211, US-CHEMTREC:1-800-424-9300,  
CA-CANUTEC:1-613-996-6666, JP: +81 (836) 74 8810, CN:  
化学事故应急咨询电话 : +86 532 8388 9090

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### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, 2, H225  
Organic peroxides, E, H242  
Germ cell mutagenicity, 2, H341  
Long-term (chronic) aquatic hazard, 3, H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

Pictogram

:



Signal word

: Danger

Hazard statements

: H225  
H242  
H341  
H412Highly flammable liquid and vapour.  
Heating may cause a fire.  
Suspected of causing genetic defects.  
Harmful to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**P201  
P210Obtain special instructions before use.  
Keep away from heat, hot surfaces,  
sparks, open flames and other ignition  
sources. No smoking.P233  
P234  
P280Keep container tightly closed.  
Keep only in original packaging.  
Wear protective gloves/ protective  
clothing/ eye protection/ face protection/  
hearing protection.**Response:**

P370 + P378

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

### Hazardous components which must be listed on the label:

Di-tert-butyl-peroxide

110-05-4

## 2.3 Other hazards

No further data available.

PBT and vPvB assessment

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

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Common Name : Organic peroxide  
 Pure substance/mixture : Substance  
 CAS-No. : 110-05-4

#### Hazardous substance

Chemical name	PBT vPvB OEL	CAS-No. EC-No. REACH No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Di-tert-butyl-peroxide		110-05-4 203-733-6 01-2119513335-48	Flam. Liq. 2; H225 Org. Perox. E; H242 Muta. 2; H341 Aquatic Chronic 3; H412	>= 99

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

General advice : Move out of dangerous area.  
 Consult a physician.  
 Show this safety data sheet to the doctor in attendance.

If inhaled : If breathed in, move person into fresh air.

In case of skin contact : Take off contaminated clothing and shoes immediately.  
 Rinse immediately with plenty of water.

In case of eye contact : Rinse with plenty of water.  
 Remove contact lenses.  
 Protect unharmed eye.  
 Keep eye wide open while rinsing.  
 If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.  
 Do NOT induce vomiting.  
 Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects, both acute and delayed

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

Risks : Suspected of causing genetic defects.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

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## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing media

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

Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting / Specific hazards arising from the chemical : CAUTION: reignition may occur.  
Supports combustion.  
Do not use a solid water stream as it may scatter and spread fire.  
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.

Combustion products : Fire will produce smoke containing hazardous combustion products (see section 10).

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Use water spray to cool unopened containers.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Emergency measures on accidental release : Evacuate personnel to safe areas.  
Only qualified personnel equipped with suitable protective equipment may intervene.  
Prevent unauthorised persons entering the zone.

### 6.2 Environmental precautions

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

## 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up / Methods for containment : 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.

## 6.4 Reference to other sections

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

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## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

- Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Take precautionary measures against static discharges.  
Container may be opened only under exhaust ventilation hood.  
Open drum carefully as content may be under pressure.  
Dispose of rinse water in accordance with local and national regulations.
- Advice on protection against fire and explosion : Use explosion protected equipment.  
Avoid formation of aerosol.  
Keep away from sources of ignition - No smoking.  
No sparking tools should be used.  
Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).  
Do not cut or weld on or near this container even when empty.  
Take measures to prevent the build up of electrostatic charge.  
Keep away from combustible material.
- Temperature class : It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded.

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

- Requirements for storage areas and containers : Prevent unauthorized access.  
No smoking.  
Store in cool place.  
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.
- Minimum storage temperature: : Avoid temperatures below: -30 °C  
Maximum storage temperature: : 40 °C

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Other data : If product freezes or separates, contact the manufacturer.

: Maximum storage temperature is for quality only.

## 7.3 Specific end use(s)

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

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
tert-Butanol	75-65-0	HTP-arvot 15 min	75 ppm 230 mg/m <sup>3</sup>	FI OEL
	Further information: The health risk of absorbed amounts of compounds which can pass through the skin to the body cannot be evaluated from their atmospheric concentration. Therefore these compounds have the notification 'skin' in the list. Many compounds can be irritating or corrosive when in contact with the skin, especially strong acids and bases.			
		HTP-arvot 8h	50 ppm 150 mg/m <sup>3</sup>	FI OEL
	Further information: The health risk of absorbed amounts of compounds which can pass through the skin to the body cannot be evaluated from their atmospheric concentration. Therefore these compounds have the notification 'skin' in the list. Many compounds can be irritating or corrosive when in contact with the skin, especially strong acids and bases.			
		TWA	100 ppm	ACGIH
		TWA	100 ppm	ACGIH
Acetone	67-64-1	TWA	500 ppm 1 210 mg/m <sup>3</sup>	2000/39/EC
	Further information: Indicative			
		HTP-arvot 8h	500 ppm 1 200 mg/m <sup>3</sup>	FI OEL
		HTP-arvot 15 min	630 ppm 1 500 mg/m <sup>3</sup>	FI OEL
		TWA	250 ppm	ACGIH
		STEL	500 ppm	ACGIH
		TWA	250 ppm	ACGIH
		STEL	500 ppm	ACGIH
Methane	74-82-8	HTP-arvot 8h	1 000 ppm	FI OEL
	Further information: Oxygen Depleting Substances			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Di-tert-butyl-peroxide	Workers	Inhalation	Long-term systemic effects	20 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	3 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Di-tert-butyl-peroxide	Fresh water	0,144 mg/l
	Marine water	0,0144 mg/l
	Intermittent water	0,36 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	15 mg/kg dry weight
	Marine sediment	1,5 mg/kg dry weight
	Soil	2,94 mg/kg dry weight

## 8.2 Exposure controls

### Engineering measures

Explosion proof ventilation recommended.  
Effective exhaust ventilation system

### Personal protective equipment

- Eye protection : Tightly fitting safety goggles
- Hand protection  
Material : Neoprene  
Material : Nitrile rubber
- Skin and body protection : Protective suit
- Respiratory protection : In the case of vapour or aerosol formation use a respirator with an approved filter.  
Filter A
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

### Environmental exposure controls

- General advice : Prevent product from entering drains.  
Discharge into the environment must be avoided.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- Physical state : Clear liquid
- Colour : colourless
- Odour : slight
- Odour Threshold : No data available
- Melting point : -29 °C

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Boiling point	:	Not applicable
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	0,8 %(V)
Flash point	:	6 °C
Decomposition temperature	:	
Decomposition temperature	:	SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-Accelerating decomposition temperature (SADT)	:	80 °C
pH	:	neutral
Viscosity	:	
Viscosity, dynamic	:	0,83 mPa.s (20 °C)
Viscosity, kinematic	:	1,037 mm <sup>2</sup> /s (20 °C)
Solubility(ies)	:	
Water solubility	:	immiscible (20 °C)
Solubility in other solvents	:	Soluble in most organic solvents.
Partition coefficient: n-octanol/water	:	log Pow: 3,2 (22 °C)
Vapour pressure	:	35 hPa (20 °C) not determined
Relative density	:	0,8 (20 °C)
Density	:	0,8 g/cm <sup>3</sup>
Bulk density	:	Not applicable
Relative vapour density	:	No data available

## 9.2 Other information



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Explosives	: Not explosive
Oxidizing properties	: Not classified as oxidising.
Flammability (liquids)	: Highly flammable, Decomposition products may be flammable.
Self-ignition	: Not applicable
Evaporation rate	: No data available
Active Oxygen Content	: 10,8 %
Organic peroxides	: 99 %

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

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## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under normal conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

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

### 10.5 Incompatible materials

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

### 10.6 Hazardous decomposition products

Hazardous decomposition products : tert-Butanol  
Acetone  
Methane

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)	: 80 °C

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## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Product information:

Acute toxicity	: Not classified based on available information.
Skin corrosion/irritation	: Not classified based on available information.
Serious eye damage/eye irritation	: Not classified based on available information.
Respiratory or skin sensitisation	: Respiratory sensitisation: Not classified based on available information. Skin sensitisation: Not classified based on available information.
Germ cell mutagenicity	: Suspected of causing genetic defects.
Carcinogenicity	: Not classified based on available information.
Reproductive toxicity	: Not classified based on available information.
STOT - single exposure	: Not classified based on available information.
STOT - repeated exposure	: Not classified based on available information.
Aspiration hazard	: Not classified based on available information.
Further information	: Solvents may degrease the skin.

#### Toxicology data for the components:

##### Di-tert-butyl-peroxide

#### Acute toxicity:

Acute oral toxicity	: LD50: > 25 000 mg/kg Species: Rat Read-across (Analogy)
Acute dermal toxicity	: LD50: > 2 000 mg/kg
Skin corrosion/irritation	: Result: No skin irritation
Serious eye damage/eye irritation	: Result: No eye irritation

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Respiratory or skin sensitisation	: Buehler Test Result: Does not cause skin sensitisation. Method: OECD Test Guideline 406 Not classified due to data which are conclusive although insufficient for classification.
Germ cell mutagenicity	
CMR effects Mutagenicity	: Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.
Genotoxicity in vitro	: Ames test Salmonella typhimurium Result: negative Method: OECD Test Guideline 471  In vitro gene mutation study in mammalian cells mouse lymphoma cells Result: negative Method: OECD Test Guideline 476
Genotoxicity in vivo	: Micronucleus test Species: Rat Method: OECD Test Guideline 474 Result: negative inhalation (vapour)  Micronucleus test Species: Mouse Method: OECD Test Guideline 474 Result: positive Intraperitoneal injection  In vivo mammalian alkaline comet assay Species: Rat Method: OECD Test Guideline 489 Result: negative
Carcinogenicity	: No data available

## 11.2 Information on other hazards

No data available

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## SECTION 12: ECOLOGICAL INFORMATION

### Product information:

#### Ecotoxicology Assessment

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

### 12.1 Toxicity

#### Components:

#### Ecotoxicology Assessment

#### Di-tert-butyl-peroxide

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Short-term (acute) aquatic hazard	:	Harmful to aquatic life.
Long-term (chronic) aquatic hazard	:	Harmful to aquatic life with long lasting effects.
<b>Test result</b>		
<b>Di-tert-butyl-peroxide</b>		
Toxicity to fish	:	LC50: > 1 000 mg/l Exposure time: 96 h Species: Poecilia reticulata (guppy)
Toxicity to daphnia and other aquatic invertebrates	:	EC50: > 73,1 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)
Toxicity to algae	:	EC50: 36 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae)

## 12.2 Persistence and degradability

**Product information** : No information available.

### Components:

#### Di-tert-butyl-peroxide

Biodegradability : Test Type: Ready biodegradability  
Inoculum: Activated sludge, domestic, non-adapted  
Concentration: 2 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 6 %  
Exposure time: 98 d  
Method: OECD Test Guideline 301D  
GLP: yes

## 12.3 Bioaccumulative potential

**Product information** : No information available.

### Components:

#### Di-tert-butyl-peroxide

Bioaccumulation : Bioaccumulation is unlikely.

## 12.4 Mobility in soil

**Product information** : No information available.

## 12.5 Results of PBT and vPvB assessment

### Product information:

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

### Components:

#### Di-tert-butyl-peroxide

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).

## 12.6 Endocrine disrupting properties

No data available

## 12.7 Other adverse effects

**Product information** : No information available.

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## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

- Product** : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Dispose of contents/container in accordance with local regulation.
- Contaminated packaging** : Empty remaining contents.  
Dispose of as unused product.  
Do not burn, or use a cutting torch on, the empty drum.  
Due to the high risk of contamination recycling/recovery is not recommended.  
Follow all warnings even after the container is emptied.

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## SECTION 14: TRANSPORT INFORMATION

### 14.1 UN number

- ADR** : UN 3107  
**RID** : UN 3107  
**IMDG-Code** : UN 3107  
**IATA-DGR** : UN 3107

### 14.2 Proper shipping name

- ADR** : ORGANIC PEROXIDE TYPE E, LIQUID  
(Di-tert-butyl-peroxide)  
**RID** : ORGANIC PEROXIDE TYPE E, LIQUID  
(Di-tert-butyl-peroxide)  
**IMDG-Code** : ORGANIC PEROXIDE TYPE E, LIQUID  
(Di-tert-butyl-peroxide)  
**IATA-DGR** : Organic peroxide type E, liquid  
(Di-tert-butyl-peroxide)

### 14.3 Transport hazard class

- ADR** : 5.2  
**RID** : 5.2  
**IMDG-Code** : 5.2  
**IATA-DGR** : 5.2

### 14.4 Packing group

- ADR**  
**Packing group** : Not Assigned  
**Classification Code** : P1  
**Labels** : 5.2  
**Tunnel restriction code** : (D)

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## RID

Packing group : Not Assigned  
Classification Code : P1  
Hazard Identification Number : 539  
Labels : 5.2

## IMDG-Code

Packing group : Not Assigned  
Labels : 5.2  
EmS Code : F-J, S-R  
Remarks : DOT-SP 12886

## IATA-DGR

Packing instruction (cargo aircraft) : 570  
Packing instruction (passenger aircraft) : 570  
Packing group : Not Assigned  
Labels : 5.2 (HEAT)

### 14.5 Environmental hazards

#### ADR

Environmentally hazardous : no

#### RID

Environmentally hazardous : no

#### IMDG-Code

Marine pollutant : no

#### IATA-DGR

Environmentally hazardous : no

### 14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

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## SECTION 15: REGULATORY INFORMATION

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 40, 3

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European : Not applicable

Parliament and the Council concerning the export and import of dangerous chemicals

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

P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

## Notification status

TCSI : YES. On the inventory, or in compliance with the inventory  
TSCA : YES. All substances listed as active on the TSCA inventory  
AICS : YES. On the inventory, or in compliance with the inventory  
DSL : YES. All components of this product are on the Canadian DSL  
ENCS : YES. On the inventory, or in compliance with the inventory  
ISHL : YES. On the inventory, or in compliance with the inventory  
KECI : YES. On the inventory, or in compliance with the inventory  
PICCS : YES. On the inventory, or in compliance with the inventory  
IECSC : YES. On the inventory, or in compliance with the inventory  
NZIoC : YES. On the inventory, or in compliance with the inventory

For explanation of abbreviation see section 16.

## 15.2 Chemical safety assessment

Product information : A Chemical Safety Assessment has been carried out for this substance.  
Di-tert-butyl-peroxide : A Chemical Safety Assessment has been carried out for this substance.

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## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

H225 : Highly flammable liquid and vapour.  
H242 : Heating may cause a fire.  
H341 : Suspected of causing genetic defects.  
H412 : Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values  
ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
FI OEL : Finland. HTP Values - Concentrations Known to be Harmful  
2000/39/EC / TWA : Limit Value - eight hours  
ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
FI OEL / HTP-arvot 8h : Long term exposure limit  
FI OEL / HTP-arvot 15 min : Short term exposure limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for

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

## Further information

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.