

# SAFETY DATA SHEET

## TBHP-70-AQ



Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2021
2.1	10.01.2022	600000000045	Date of first issue: 19.05.2021

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TBHP-70-AQ

#### Manufacturer or supplier's details

Company : United Initiators GmbH

Address : Dr.-Gustav-Adolph-Str. 3  
82049 Pullach

Telephone : +49 / 89 / 74422 – 0

Emergency telephone number : +49 / 89 / 74422 – 0 (24 h)

E-mail address : contact@united-in.com

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

Recommended use : polymerisation initiators  
Oxidizing agents

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### 2. HAZARDS IDENTIFICATION

#### Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

##### Classification

Highly Toxic, Toxic, Highly flammable liquids

##### GHS Classification

Flammable liquids : Category 3

Organic peroxides : Type F

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 2

Acute toxicity (Dermal) : Category 3

Skin corrosion/irritation : Sub-category 1C

Serious eye damage/eye irritation : Category 1

Skin sensitisation : Category 1

Germ cell mutagenicity : Category 2

Carcinogenicity : Category 2

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Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 2

### GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.  
H242 Heating may cause a fire.  
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.  
H330 Fatal if inhaled.  
H335 May cause respiratory irritation.  
H341 Suspected of causing genetic defects.  
H351 Suspected of causing cancer.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P203 Obtain, read and follow all safety instructions before use.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P234 Keep only in original packaging.  
P240 Ground and bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.  
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.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.  
P284 Wear respiratory protection.

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### Response:

P301 + P317 + P330 IF SWALLOWED: Get medical help. Rinse mouth.

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

P302 + P352 + P316 IF ON SKIN: Wash with plenty of water. Get emergency medical help immediately.

P303 + P361 + P354 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.

P304 + P340 + P316 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately.

P305 + P354 + P338 + P317 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.

P318 IF exposed or concerned, get medical advice.

P333 + P317 If skin irritation or rash occurs: Get medical help.

P361 + P364 Take off immediately all 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.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P410 Protect from sunlight.

P411 Store at temperatures not exceeding 35 °C/ 95 °F.

P420 Store separately.

### Disposal:

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

### Other hazards which do not result in classification

None known.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance  
Chemical nature : Organic Peroxide  
Aqueous solution  
Substance name : tert-butyl hydroperoxide  
CAS-No. : 75-91-2

### Components

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Chemical name	CAS-No.	Concentration (% w/w)
tert-butyl hydroperoxide	75-91-2	> 68 - <= 72

### 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.  
Symptoms of poisoning may appear several hours later.  
No artificial respiration, mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus.  
Call a physician immediately.
- If inhaled : Call a physician or poison control centre immediately.  
If unconscious, place in recovery position and seek medical advice.  
Keep respiratory tract clear.  
Call a physician immediately.  
If breathed in, move person into fresh air.  
Contact a poison control center.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Wash contaminated clothing before re-use.  
Call a physician immediately.  
Contact a poison control center.  
If on skin, rinse well with water.  
If on clothes, remove clothes.  
If symptoms persist, call a physician.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Call a physician immediately.  
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.  
Toxic in contact with skin.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
Fatal if inhaled.  
May cause respiratory irritation.  
Suspected of causing genetic defects.

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Suspected of causing cancer.  
Causes severe burns.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing

Notes to physician : Treat symptomatically and supportively.

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### 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray jet  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire-fighting : Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may auto-ignite.  
The product burns violently.  
Flash back possible over considerable distance.  
Vapours may form explosive mixtures with air.  
Cool closed containers exposed to fire with water spray.

Specific extinguishing methods : 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.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
  
Do not use a solid water stream as it may scatter and spread fire.  
Remove undamaged containers from fire area if it is safe to do so.  
Use water spray to cool unopened containers.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.  
Use personal protective equipment.

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### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Follow safe handling advice and personal protective equip-

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ment recommendations.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
Never return spills in original containers for re-use.  
Treat recovered material as described in the section "Disposal considerations".

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contact with incompatible substances can cause decomposition at or below SADT.  
Clear spills immediately.  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
To clean the floor and all objects contaminated by this material, use plenty of water.  
Soak up with inert absorbent material.  
Isolate waste and do not reuse.  
Non-sparking tools should be used.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

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### 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Advice on protection against fire and explosion : Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).  
Keep away from heat and sources of ignition.  
Use only explosion-proof equipment.  
Keep away from combustible material.

Advice on safe handling : Do not swallow.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
Avoid formation of aerosol.  
Take precautionary measures against static discharges.  
Never return any product to the container from which it was originally removed.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Avoid confinement.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Smoking, eating and drinking should be prohibited in the application area.

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Wash thoroughly after handling.  
For personal protection see section 8.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Protect from contamination.

Conditions for safe storage : Avoid impurities (e.g. rust, dust, ash), risk of decomposition. Electrical installations / working materials must comply with the technological safety standards. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Store in accordance with the particular national regulations.

Materials to avoid : Keep away from strong acids, bases, heavy metal salts and other reducing substances.

Recommended storage temperature : 2 - 35 °C

Further information on storage stability : No decomposition if stored normally.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
tert-butyl hydroperoxide	75-91-2	TWA	0.1 ppm	ACGIH

**Engineering measures** : Minimize workplace exposure concentrations.

#### Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

Filter type : ABEK-filter

#### Hand protection

Material : butyl-rubber  
Break through time : 480 min  
Glove thickness : 0.5 mm

Material : Nitrile rubber  
Break through time : 480 min  
Glove thickness : 0.4 mm

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- Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Eye protection : Tightly fitting safety goggles  
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.  
Ensure that eyewash stations and safety showers are close to the workstation location.
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
- Hygiene measures : Avoid contact with skin, eyes and clothing.  
Keep away from food and drink.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and immediately after handling the product.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : colourless, clear
- Odour : characteristic
- Odour Threshold : not determined
- pH : ca. 4.3
- Melting point/range : < 0 °C
- Boiling point/boiling range : 96 °C  
(1,013 hPa)  
Decomposition: yes
- Flash point : 38 °C  
  
Method: closed cup
- Evaporation rate : No data available



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Flammability (solid, gas)	:	Not applicable Remarks: Organic peroxide
Upper explosion limit / Upper flammability limit	:	ca. 99.99 %(V)
Lower explosion limit / Lower flammability limit	:	ca. 5.7 %(V)
Vapour pressure	:	50.78 hPa (25 °C)
Relative vapour density	:	ca. 3.1 (15 - 20 °C ) (Air = 1.0)
Density	:	ca. 0.93 g/cm <sup>3</sup> (20 °C)
Solubility(ies) Water solubility	:	> 691 g/l soluble (20 °C)
Partition coefficient: n-octanol/water	:	log Pow: 0.85 (20 °C)
Self-Accelerating decomposition temperature (SADT)	:	80 °C Method: UN-Test H.4 SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.
Viscosity Viscosity, kinematic	:	2.45 mm <sup>2</sup> /s ( 40 °C) 4.42 mm <sup>2</sup> /s ( 20 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing. Organic peroxide
Surface tension	:	69.9 mN/m, 20 °C
Refractive index	:	ca. 1.387 (20 °C)

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### 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.

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Conditions to avoid : Protect from contamination.  
Contact with incompatible substances can cause decomposition at or below SADT.  
Heat, flames and sparks.  
Avoid confinement.

Incompatible materials : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

Hazardous decomposition products : Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition

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### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

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

#### Product:

Acute oral toxicity : LD50(Rat): 805 mg/kg  
Method: Acute toxicity estimate  
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50(Rat): 1.19 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Acute toxicity estimate  
Assessment: The component/mixture is highly toxic after short term inhalation.  
Remarks: May cause respiratory irritation.

Acute dermal toxicity : LD50(Rabbit): 633 mg/kg  
Method: Acute toxicity estimate  
Assessment: The component/mixture is toxic after single contact with skin.  
Remarks: Dermal absorption possible

#### Skin corrosion/irritation

Causes severe burns.

#### Product:

Species : Rabbit  
Method : Draize Test  
Result : Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.

Remarks : Extremely corrosive and destructive to tissue.

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### Serious eye damage/eye irritation

Causes serious eye damage.

#### Product:

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

Remarks : May cause irreversible eye damage.

### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.

#### Respiratory sensitisation

Not classified based on available information.

#### Product:

Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Causes sensitisation.

Exposure routes : Inhalation  
Remarks : No data available

Remarks : Causes sensitisation.

### Germ cell mutagenicity

Suspected of causing genetic defects.

#### Product:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: Directive 67/548/EEC, Annex, B.13/14  
Result: positive

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive

Test Type: In vitro mammalian cell gene mutation test  
Method: Directive 67/548/EEC, Annex, B.17  
Result: positive

Genotoxicity in vivo : Test Type: Chromosomal aberration  
Species: Mouse (male and female)  
Application Route: Intravenous  
Method: Directive 67/548/EEC, Annex V, B.12.  
Result: negative

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Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse (males)  
Application Route: Intraperitoneal  
Method: Directive 67/548/EEC, Annex, B.22  
Result: positive

Test Type: In vivo mammalian alkaline comet assay  
Species: Rat (male)  
Application Route: inhalation (vapour)  
Method: OECD Test Guideline 489  
Result: negative

Germ cell mutagenicity - Assessment : Suspected of causing genetic defects., The GHS classification specified by the authority

### **Carcinogenicity**

Suspected of causing cancer.

#### **Product:**

Species : Rat, male and female  
Application Route : inhalation (vapour)  
NOEC : 15 mg/l  
Method : OECD Test Guideline 451  
Symptoms : carcinogenic effects, Systemic toxicity  
GLP : yes

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

### **Reproductive toxicity**

Not classified based on available information.

#### **Product:**

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat, male and female  
Application Route: Oral  
General Toxicity F1: NOAEL: 21 mg/kg body weight  
Method: OECD Test Guideline 422  
GLP: yes

Effects on foetal development : Test Type: Prenatal development toxicity study (teratogenicity)  
Species: Rat, female  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 35 mg/kg body weight  
Developmental Toxicity: NOAEL: >= 35 mg/kg body weight  
Method: OECD Test Guideline 414  
GLP: yes

### **STOT - single exposure**

May cause respiratory irritation.



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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 20 mg/l  
Exposure time: 48 h  
Test Type: Immobilization  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 2.1 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition  
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50 (Bacteria): 24.3 mg/l  
Test Type: Respiration inhibition of activated sludge
- Toxicity to soil dwelling organisms : LC50: 166 mg/kg  
Exposure time: 14 d  
End point: Mortality/concentration

### Ecotoxicology Assessment

- Acute aquatic toxicity : Toxic to aquatic life., Based on test data
- Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects., Based on test data

### Persistence and degradability

#### Product:

- Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 0 %  
Exposure time: 28 d

### Bioaccumulative potential

#### Product:

- Bioaccumulation : Remarks: Bioaccumulation is unlikely.

### Mobility in soil

No data available

### Other adverse effects

#### Product:

- 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.

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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 chemical or used container.  
Dispose of wastes in an approved waste disposal facility.
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.  
Dispose of in accordance with local regulations.
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### 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

- UN number : UN 3109  
Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID  
(tert-BUTYL HYDROPEROXIDE)  
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  
(tert-Butyl hydroperoxide)  
Class : 5.2  
Subsidiary risk : 8  
Packing group : Not assigned by regulation  
Labels : Organic Peroxides, Keep Away From Heat, Corrosive  
Packing instruction (cargo aircraft) : 570  
Packing instruction (passenger aircraft) : 570

##### IMDG-Code

- UN number : UN 3109  
Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID  
(tert-BUTYL HYDROPEROXIDE)  
Class : 5.2  
Subsidiary risk : 8  
Packing group : Not assigned by regulation  
Labels : 5.2 (8)  
EmS Code : F-J, S-R  
Marine pollutant : yes
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### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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## 15. REGULATORY INFORMATION

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

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

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

TCSI (TW)	:	On the inventory, or in compliance with the inventory
TSCA (US)	:	All substances listed as active on the TSCA inventory
AiIC (AU)	:	On the inventory, or in compliance with the inventory
DSL (CA)	:	All components of this product are on the Canadian DSL
ENCS (JP)	:	On the inventory, or in compliance with the inventory
ISHL (JP)	:	On the inventory, or in compliance with the inventory
KECI (KR)	:	On the inventory, or in compliance with the inventory
PICCS (PH)	:	On the inventory, or in compliance with the inventory
IECSC (CN)	:	On the inventory, or in compliance with the inventory
TECI (TH)	:	On the inventory, or in compliance with the inventory

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## 16. OTHER INFORMATION

### Further information

Other information	:	This safety datasheet only contains information relating to safety and does not replace any product information or product specification. These safety instructions also apply to empty packaging which may still contain product residues.
Sources of key data used to	:	Internal technical data, data from raw material SDSs, OECD



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compile the Safety Data Sheet : eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : dd.mm.yyyy

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

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

AIIIC - 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 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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