

# SAFETY DATA SHEET

## TMCH-90-AL



Version 4.1      Revision Date: 2024/09/12      SDS Number: 600000000196      Date of last issue: 2021/03/26  
Date of first issue: 2017/07/18

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TMCH-90-AL

Other means of identification : None

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

Recommended use : polymerisation initiators

#### Manufacturer or supplier's details

Company : United Initiators GmbH

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

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

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

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### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids : Category 4

Organic peroxides : Type C

Aspiration hazard : Category 1

Long-term (chronic) aquatic hazard : Category 4

#### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H227 Combustible liquid.  
H242 Heating may cause a fire.  
H304 May be fatal if swallowed and enters airways.  
H413 May cause long lasting harmful effects to aquatic life.

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Precautionary statements :

**Prevention:**

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.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P331 Do NOT induce vomiting.  
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

**Storage:**

P405 Store locked up.  
P410 Protect from sunlight.  
P411 + P235 Store at temperatures not exceeding < 30 °C/ < 86 °F. Keep cool.  
P420 Store away from other materials.

**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 : Mixture  
Chemical nature : Organic Peroxide  
Liquid mixture

**Components**

Hazardous ingredients	CAS-No.	Concentration (% w/w)
di-tert-butyl 3,3,5-trimethylcyclohexylidene di-peroxide	6731-36-8	>= 85 -< 90
Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated	93685-81-5	>= 10 -< 15

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### 4. FIRST AID MEASURES

General advice : Take off contaminated clothing and shoes immediately.  
Call a physician immediately.  
Never give anything by mouth to an unconscious person.  
If unconscious, place in recovery position and seek medical advice.

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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.

### First aid measures for different exposure routes

- If inhaled : Administer oxygen if breathing is difficult or cyanosis is observed.  
If breathed in, move person into fresh air.  
If not breathing, give artificial respiration.  
Call a physician or poison control centre immediately.  
If unconscious, place in recovery position and seek medical advice.  
Keep respiratory tract clear.
- In case of skin contact : If symptoms persist, call a physician.  
Wash contaminated clothing before re-use.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Call a physician immediately.  
Contact a poison control center.  
Keep respiratory tract clear.  
Do NOT induce vomiting.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : May be fatal if swallowed and enters airways.
- 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

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- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Risk of explosion if heated under confinement.  
Possible emission of gaseous decomposition products may lead to a dangerous pressure build-up.  
Avoid confinement.  
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.  
Do not allow run-off from fire fighting to enter drains or water courses.  
Vapours may form explosive mixtures with air.  
The product will float on water and can be reignited on surface water.  
Cool closed containers exposed to fire with water spray.
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use a water spray to cool fully closed 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.
- 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 : Follow safe handling advice and personal protective equipment recommendations.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Never return spills in original containers for re-use.

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- 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

### Handling

- 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 open flames, hot surfaces and sources of ignition.  
Keep away from combustible material.  
Do not spray on a naked flame or any incandescent material.
- Advice on safe handling : Open drum carefully as content may be under pressure.  
Protect from contamination.  
Do not swallow.  
Do not breathe vapours/dust.  
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.

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Smoking, eating and drinking should be prohibited in the application area.  
Wash thoroughly after handling.  
For personal protection see section 8.

### Storage

- Conditions for safe storage : Store in original container.  
Keep containers tightly closed in a cool, well-ventilated place.  
Store in cool place.  
Keep in a well-ventilated place.  
Contamination may result in dangerous pressure increases - closed containers may rupture.  
Observe label precautions.  
Store in accordance with the particular national regulations.  
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.
- Materials to avoid : Keep away from combustible materials.  
Keep away from strong acids, bases, heavy metal salts and other reducing substances.
- Recommended storage temperature : < 30 °C
- Further information on storage stability : Stable under recommended storage conditions.
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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### Biological occupational exposure limits

Contains no substances with biological exposure indices.

**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 : < 60 min  
Glove thickness : 0.70 mm

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Material : Nitrile rubber  
Break through time : <= 480 min  
Glove thickness : 0.40 mm

Remarks : The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. 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 : Ensure that eyewash stations and safety showers are close to the workstation location.  
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.  
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.  
Tightly fitting safety goggles  
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.  
Wear as appropriate:  
Flame retardant antistatic protective clothing.

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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

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Odour : musty

Odour Threshold : not determined

pH : substance/mixture is non-soluble (in water)

Melting point/ range : < -25 °C

Boiling point/boiling range : Decomposition: Decomposes below the boiling point.

Flash point : 63 °C  
Method: ISO 3679, open cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Organic peroxide

Self-ignition : The substance or mixture is not classified as pyrophoric.

Upper explosion limit / Upper flammability limit : Upper explosion limit  
4 %(V)  
(for a component of this mixture)

Lower explosion limit / Lower flammability limit : Lower explosion limit  
0.5 %(V)  
(for a component of this mixture)

Vapour pressure : < 0.09 hPa (20 °C)

Relative vapour density : not determined

Relative density : not determined

Density : 0.895 g/cm<sup>3</sup> (20 °C)

Solubility(ies)  
Water solubility : insoluble

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : not determined

Self-Accelerating decomposition temperature (SADT) : 60 °C  
Method: UN-Test H.4



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SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.

Viscosity		
Viscosity, dynamic	:	18 mPa.s ( 20 °C)
Viscosity, kinematic	:	not determined
Explosive properties	:	Not explosive In use, may form flammable/explosive vapour-air mixture.
Oxidizing properties	:	The substance or mixture is not classified as oxidizing. Organic peroxide
Self-heating substances	:	The substance or mixture is not classified as self heating.
Refractive index	:	1.438 (20 °C)

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### 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions. Heating may cause a fire or explosion.
Chemical stability	:	Stable under recommended storage conditions. No decomposition if stored normally.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
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

Symptoms of Overexposure : None known.

#### Acute toxicity

Not classified due to lack of data.

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### Components:

#### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

- 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 inhalation toxicity : LC50 (Rat): > 5.6 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Assessment: The substance or mixture has no acute inhalation 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

#### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5,000 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
  
Remarks: No data available
- Acute dermal toxicity : LD50 Dermal (Rabbit): 3,16 ml/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials

### **Skin corrosion/irritation**

Not classified due to lack of data.

### Components:

#### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

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

#### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

- Result : Repeated exposure may cause skin dryness or cracking.

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### Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

#### Components:

##### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

Species : Rabbit  
Result : No eye irritation  
Method : OECD Test Guideline 405

##### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

Result : No eye irritation

### Respiratory or skin sensitisation

#### **Skin sensitisation**

Not classified due to lack of data.

#### **Respiratory sensitisation**

Not classified due to lack of data.

#### Components:

##### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

### Chronic toxicity

#### **Germ cell mutagenicity**

Not classified due to lack of data.

#### Components:

##### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

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

Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Genotoxicity in vivo : Remarks: No data available

##### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

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Germ cell mutagenicity - Assessment : No known effect.

### **Carcinogenicity**

Not classified due to lack of data.

### **Components:**

#### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

Species : Mouse  
Application Route : Oral  
Result : negative

#### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

Carcinogenicity - Assessment : No known effect.

### **Reproductive toxicity**

Not classified due to lack of data.

### **Components:**

#### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

Effects on fertility : Remarks: No data available

Effects on foetal development : Species: Rat  
Application Route: oral (gavage)  
General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight  
Method: OECD Test Guideline 414

#### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

Reproductive toxicity - Assessment : No known effect.

### **STOT - single exposure**

Not classified due to lack of data.

### **STOT - repeated exposure**

Not classified due to lack of data.

### **Aspiration toxicity**

May be fatal if swallowed and enters airways.

### **Components:**

#### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

May be fatal if swallowed and enters airways.

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### Further information

#### **Product:**

Remarks : Solvents may degrease the skin.

#### **Components:**

#### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

Remarks : May cause headache and dizziness.

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### **Components:**

#### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 0.043 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 1 mg/l  
aquatic invertebrates : Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: No toxicity at the limit of solubility

Toxicity to algae/aquatic : EC10 (Pseudokirchneriella subcapitata (green algae)): 0.11  
plants : mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other : NOEC (Daphnia magna (Water flea)): 0.0128 mg/l  
aquatic invertebrates (Chron- : Exposure time: 21 d  
ic toxicity) : Method: OECD Test Guideline 211  
Remarks: No toxicity at the limit of solubility

Toxicity to microorganisms : EC50 (Bacteria): > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

### Ecotoxicology Assessment

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

#### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

Toxicity to daphnia and other : EC50 (Daphnia (water flea)): > 0.04 mg/l  
aquatic invertebrates : Exposure time: 48 h  
Remarks: Information given is based on data obtained from

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similar substances.

Toxicity to algae/aquatic plants : IC50 (algae): > 0.04 mg/l  
Exposure time: 72 h  
Remarks: Information given is based on data obtained from similar substances.

### Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.  
Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

### Persistence and degradability

#### Components:

#### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

Biodegradability : Result: Biodegradable  
Method: OECD Test Guideline 301D

#### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

Biodegradability : Result: Not readily biodegradable.

### Bioaccumulative potential

#### Components:

#### **di-tert-butyl 3,3,5-trimethylcyclohexylidene diperoxide:**

Bioaccumulation : Bioconcentration factor (BCF): 443

Partition coefficient: n-octanol/water : log Pow: 6.53

#### **Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:**

Partition coefficient: n-octanol/water : log Pow: 5.94 - 6.16 (20 °C)  
Remarks: The value is calculated

### 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.  
May cause long lasting harmful effects to aquatic life.

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### 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

- Waste from residues : Dispose of wastes in an approved waste disposal facility. 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.
- Contaminated packaging : Dispose of in accordance with local regulations. Clean container with water. Dispose of contents/ container to an approved waste disposal plant. 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.
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### 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

- UN number : UN 3103
- Proper shipping name : ORGANIC PEROXIDE TYPE C, LIQUID (1,1-DI-(tert-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE)
- Class : 5.2
- Packing group : Not assigned by regulation
- Labels : 5.2
- Environmentally hazardous : no

##### IATA-DGR

- UN/ID No. : UN 3103
- Proper shipping name : Organic peroxide type C, liquid (1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane)
- Class : 5.2
- Packing group : Not assigned by regulation
- Labels : Organic Peroxides, Keep Away From Heat
- Packing instruction (cargo aircraft) : 570
- Packing instruction (passenger aircraft) : 570

##### IMDG-Code

- UN number : UN 3103
- Proper shipping name : ORGANIC PEROXIDE TYPE C, LIQUID (1,1-DI-(tert-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE)
- Class : 5.2
- Packing group : Not assigned by regulation
- Labels : 5.2
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EmS Code : F-J, S-R  
Marine pollutant : no

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

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

### National regulatory information

Gefahrgruppe nach TRGS 741: Ib, S+ (German regulatory requirements)  
Produkt unterliegt dem Sprengstoffgesetz (SprengG; Stoffgruppe C). (German regulatory requirements)

Regulations on Occupational Safety and Health Facilities	: applicable
Standards for the Storage, Cleanup, Handling and Disposal of Industrial Waste	: applicable
Regulations on Labelling and Hazard Communication of Hazardous Chemicals	: applicable
Rules on Road Traffic Safety	: applicable
Standards of Permissible Exposure Limits in Workplace	: Contains no substances with occupational exposure limit values.
Rules on the Prevention of Poisoning from Organic Solvents.	: Not applicable
Standard for the Control of Designated Hazardous and Dangerous Chemicals	: Not applicable
Establishment Standards and Safety Control Regulations for Manufacturing, Storing, Processing Public Hazardous Substances and Flammable Pressurized Gases Places	: Quantity subject to control
Toxic and Concerned Chemical Substances Control Act	
Toxic chemical substances	: Not applicable
Concerned chemical substances	: Not applicable
Regulations for Governing Designating and Handling of Priority Management Chemicals	: applicable

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

TCSI (TW)	: 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



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Version	Revision Date:	SDS Number:	Date of last issue: 2021/03/26
4.1	2024/09/12	600000000196	Date of first issue: 2017/07/18

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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

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 2024/09/12

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.  
The hazards on the label also apply to residues in the container.

Date format : yyyy/mm/dd

#### Full text of other abbreviations

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

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lative 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

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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