

# SAFETY DATA SHEET

## DHBP



Version 1.2      Revision Date: 07.03.2024      SDS Number: 600000000007      Date of last issue: 29.04.2020  
Date of first issue: 17.09.2018

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### SECTION 1: Identification of the hazardous chemical and of the supplier

#### Product identifier

Product name : DHBP

Chemical name : 2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane

CAS-No. : 78-63-7

#### 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

Telephone : +49 / 89 / 74422 – 0

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

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

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### SECTION 2: Hazards identification

#### Classification of the hazardous chemical

Organic peroxides : Type C

Skin corrosion/irritation : Category 2

#### Label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H242 Heating may cause a fire.  
H315 Causes skin irritation.

Precautionary statements : **Prevention:**  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces.

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No smoking.  
P220 Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials.  
P234 Keep only in original container.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ eye protection/ face protection.

### Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.

### Storage:

P410 Protect from sunlight.  
P411 + P235 Store at temperatures not exceeding 40 °C/ 104 °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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## SECTION 3: Composition and information of the ingredients of the hazardous chemical

Substance / Mixture : Substance  
Chemical nature : Organic Peroxide liquid

### Components

Chemical name	CAS-No.	Concentration (% w/w)
2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane	78-63-7	<= 100

## SECTION 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.  
Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.

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- Do not leave the victim unattended.
- 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.  
If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : If symptoms persist, call a physician.  
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.  
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.  
Rinse mouth thoroughly with water.  
Keep respiratory tract clear.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Causes skin irritation.
- 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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### SECTION 5: Firefighting measures

#### Extinguishing media

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

Unsuitable extinguishing media : High volume water jet

#### Physicochemical hazards arising from the chemical

Specific hazards during fire- : Risk of explosion if heated under confinement.

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fighting

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.

### Special protective equipment and precautions for fire-fighters

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

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.

Hazchem Code : 2WE

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### SECTION 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.  
Remove all sources of ignition.  
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

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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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### SECTION 7: Handling and storage

#### Handling

##### Precautions for safe 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 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.  
Wash thoroughly after handling.  
For personal protection see section 8.

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### Storage

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

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 : 10 - 40 °C

Further information on storage stability : Stable under recommended storage conditions.

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## SECTION 8: Exposure controls and personal protection

### Control parameters

Contains no substances with occupational exposure limit values.

**Appropriate engineering controls** : Minimize workplace exposure concentrations.

### Individual protection measures, such as personal protective equipment

Eye/face 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 protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.

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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.

### Hand protection

Material : butyl-rubber  
Break through time : 480 min  
Glove thickness : 0.47 mm

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.

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

Filter type : ABEK-filter

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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### SECTION 9: Physical and chemical properties

Appearance : liquid

Colour : colourless

Odour : ether-like

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Odour Threshold : No data available

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

Melting point/freezing point : < 10 °C

Initial boiling point and boiling range : Decomposition: Decomposes below the boiling point.

Flash point : 74 °C  
Method: ISO 3679

Evaporation rate : No data available

Flammability (liquids) : Organic peroxide

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

Upper explosion limit / Upper flammability limit : Upper explosion limit not determined

Lower explosion limit / Lower flammability limit : Lower explosion limit not determined

Vapour pressure : < 0.01 hPa (20 °C)

Relative vapour density : not determined

Relative density : not determined

Density : 0.88 g/cm<sup>3</sup> (20 °C)

Solubility(ies)  
Water solubility : < 0.01 g/l insoluble (20 °C)

Solubility in other solvents : completely miscible  
Solvent: Alcohol

completely miscible  
Solvent: Esters

Partition coefficient: n-octanol/water : log Pow: 7.34 (20 °C)

Auto-ignition temperature : not determined

Self-Accelerating decomposition temperature (SADT) : 90 °C  
Method: UN-Test H.4  
SADT-Self Accelerating Decomposition Temperature. Lowest



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temperature at which the tested package size will undergo a self-accelerating decomposition reaction.

### Viscosity

Viscosity, dynamic : 8 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 : 1.422 (20 °C)

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### SECTION 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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### SECTION 11: Toxicological information

Information on likely routes of exposure : None known.

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### Acute toxicity

Not classified due to lack of data.

#### Product:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: No mortality observed at this dose.

Acute inhalation toxicity : Remarks: study scientifically unjustified

Acute dermal toxicity : LD50 (Rabbit): 4,100 mg/kg  
Method: OECD Test Guideline 402

#### Components:

##### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane :**

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: No mortality observed at this dose.

Acute inhalation toxicity : Remarks: study scientifically unjustified

Acute dermal toxicity : LD50 (Rabbit): 4,100 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### Skin corrosion/irritation

Causes skin irritation.

#### Product:

Species : Rabbit  
Exposure time : 4 h  
Method : OECD Test Guideline 404  
Result : Skin irritation

Remarks : May cause skin irritation in susceptible persons.

#### Components:

##### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane :**

Species : Rabbit  
Exposure time : 4 h  
Method : OECD Test Guideline 404  
Result : Skin irritation

### Serious eye damage/eye irritation

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

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### **Product:**

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

Remarks : Vapours may cause irritation to the eyes, respiratory system and the skin.

### **Components:**

#### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane :**

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

### **Respiratory or skin sensitisation**

#### **Skin sensitisation**

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

#### **Respiratory sensitisation**

Not classified due to lack of data.

### **Product:**

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

### **Components:**

#### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane :**

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

### **Germ cell mutagenicity**

Not classified due to lack of data.

### **Product:**

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

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

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Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse (male and female)  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

### Components:

#### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane :**

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse (male and female)  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

### **Carcinogenicity**

Not classified due to lack of data.

### Product:

Remarks : This information is not available.

### Components:

#### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane :**

Remarks : This information is not available.

### **Reproductive toxicity**

Not classified due to lack of data.

### Product:

Effects on foetal development : Test Type: Prenatal development toxicity study (teratogenicity)  
Species: Rat  
Application Route: oral (gavage)  
General Toxicity Maternal: NOAEL: 300 mg/kg body weight  
Developmental Toxicity: 300 mg/kg body weight  
Method: OECD Test Guideline 414  
GLP: yes

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### Components:

#### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane:**

Effects on foetal development : Test Type: Prenatal development toxicity study (teratogenicity)  
Species: Rat  
Application Route: oral (gavage)  
General Toxicity Maternal: NOAEL: 300 mg/kg body weight  
Developmental Toxicity: 300 mg/kg body weight  
Method: OECD Test Guideline 414  
GLP: yes

#### **STOT - single exposure**

Not classified due to lack of data.

#### **STOT - repeated exposure**

Not classified due to lack of data.

#### **Repeated dose toxicity**

#### Product:

Species : Rat, male and female  
NOAEL : 200 mg/kg bw/day  
Application Route : Oral  
Exposure time : 28 d  
Method : OECD Test Guideline 407  
GLP : yes

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

### Components:

#### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane:**

Species : Rat, male and female  
NOAEL : 200 mg/kg bw/day  
Application Route : Oral  
Exposure time : 28 d  
Method : OECD Test Guideline 407  
GLP : yes

Species : Rat, male and female  
NOAEL : 150 mg/kg bw/day  
Application Route : Oral  
Exposure time : 90  
Method : OECD Test Guideline 408  
GLP : yes

#### **Aspiration toxicity**

Not classified due to lack of data.

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### **Product:**

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

### **Components:**

#### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane :**

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

### **Further information**

#### **Product:**

Remarks : No data available

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## **SECTION 12: Ecological information**

### **Ecotoxicity**

#### **Product:**

- Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 4.5 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203  
Remarks: No toxicity at the limit of solubility
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): >= 0.236 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition  
Analytical monitoring: yes  
Method: OECD Test Guideline 201  
Remarks: No toxicity at the limit of solubility
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 0.0065 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Method: OECD Test Guideline 211  
Remarks: No toxicity at the limit of solubility
- Toxicity to microorganisms : NOEC (activated sludge): > 1,000 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209  
Remarks: No toxicity at the limit of solubility

### **Components:**

#### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane :**

- Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 4.5 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203

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Remarks: No toxicity at the limit of solubility

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): >= 0.236 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition  
Analytical monitoring: yes  
Method: OECD Test Guideline 201  
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 0.0065 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Method: OECD Test Guideline 211  
Remarks: No toxicity at the limit of solubility

Toxicity to microorganisms : NOEC (activated sludge): > 1,000 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209  
Remarks: No toxicity at the limit of solubility

### Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

### Persistence and degradability

#### Product:

Biodegradability : Result: Readily biodegradable.  
Method: OECD Test Guideline 301D  
Remarks: Not classified due to data which are conclusive although insufficient for classification.

#### Components:

##### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane:**

Biodegradability : Result: Readily biodegradable.  
Method: OECD Test Guideline 301D  
Remarks: Not classified due to data which are conclusive although insufficient for classification.

### Bioaccumulative potential

#### Product:

Bioaccumulation : Bioconcentration factor (BCF): 521 - 839

#### Components:

##### **2,5-Dimethyl-2,5-di(tert.-butylperoxy)hexane:**

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Bioaccumulation : Bioconcentration factor (BCF): 521 - 839

Partition coefficient: n-octanol/water : log Pow: 7.34

### Mobility in soil

No data available

### Other adverse effects

#### Product:

Additional ecological information : No data available

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## SECTION 13: Disposal information

### 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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## SECTION 14: Transport information

### International Regulations

#### **UNRTDG**

- UN number : UN 3103  
Proper shipping name : ORGANIC PEROXIDE TYPE C, LIQUID (2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY)HEXANE)  
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 (2,5-Dimethyl-2,5-di-(tert-butylperoxy)-hexane)  
Class : 5.2  
Packing group : Not assigned by regulation
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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  
(2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY)HEXANE)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2  
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.

Hazchem Code : 2WE

### 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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## SECTION 15: Regulatory information

### Safety, health, and environmental regulations specific for the hazardous chemical

Gefahrgruppe nach TRGS 741: Ib, S+ (German regulatory requirements)  
Produkt unterliegt dem Sprengstoffgesetz (SprengG; Stoffgruppe C). (German regulatory requirement)  
Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.  
Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

### 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  
AIIIC (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

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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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### SECTION 16: Other information

Revision Date : 07.03.2024

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

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/>

Date format : dd.mm.yyyy

#### 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;

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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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