

# SAFETY DATA SHEET

## TBPEH-30-AL (IBC)



Version 5.0      Revision Date: 19.09.2019      SDS Number: 600000000207      Date of last issue: 04.06.2019  
Date of first issue: 07.08.2017

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TBPEH-30-AL (IBC)

#### Manufacturer or supplier's details

Company : United Initiators GmbH  
Address : Dr.-Gustav-Adolph-Str. 3  
82049 Pullach 09  
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


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### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids : Category 3  
Organic peroxides : Type F  
Skin sensitisation : Category 1  
Reproductive toxicity : Category 1B  
Aspiration hazard : Category 1  
Short-term (acute) aquatic hazard : Category 1  
Long-term (chronic) aquatic hazard : Category 1

#### GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.  
H242 Heating may cause a fire.  
H304 May be fatal if swallowed and enters airways.

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Precautionary statements :

H317 May cause an allergic skin reaction.  
H360F May damage fertility.  
H410 Very toxic to aquatic life with long lasting effects.

**Prevention:**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
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.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
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.

**Response:**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P331 Do NOT induce vomiting.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.  
P391 Collect spillage.

**Storage:**

P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P410 Protect from sunlight.  
P411 Store at temperatures not exceeding < 10 °C/ < 50 °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 : Mixture  
Chemical nature : Organic Peroxide  
Liquid mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated	93685-81-5	>= 70 - < 90
tert-Butyl 2-ethylperoxyhexanoate	3006-82-4	>= 25 - < 30
Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated	93685-81-5	>= 70 - < 90
tert-Butyl 2-ethylperoxyhexanoate	3006-82-4	>= 25 - < 30

### 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.  
If breathed in, move person into fresh air.

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.  
If on skin, rinse well with water.  
If on clothes, remove clothes.  
If symptoms persist, call a physician.

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 : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Call a physician immediately.  
Contact a poison control center.

Most important symptoms : May be fatal if swallowed and enters airways.

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and effects, both acute and delayed : May cause an allergic skin reaction.  
May damage fertility.

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 equipment recommendations.  
Beware of vapours accumulating to form explosive concentra-

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tions. 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.  
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

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- 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 : < 10 °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

Contains no substances with occupational exposure limit values.

**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

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.

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- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
- Hygiene measures : 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
- Odour : ester-like
- Odour Threshold : No data available
- pH : No data available
- Melting point/range : < -25 °C
- Boiling point/boiling range : Decomposition: Decomposes below the boiling point.
- Flash point : 55 °C  
Method: ISO 3679
- Evaporation rate : No data available
- Flammability (solid, gas) : Not applicable
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available
- Vapour pressure : No data available
- Density : 0.79 g/cm<sup>3</sup> (20 °C)
- Solubility(ies)  
Water solubility : No data available
- Partition coefficient: n-octanol/water : No data available
- Self-Accelerating decomposition temperature (SADT) : 40 °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 : 1.8 mPa.s ( 20 °C)

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.  
Organic peroxide

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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.

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

Not classified based on available information.

#### Components:

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

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials

#### **tert-Butyl 2-ethylperoxyhexanoate:**

Acute oral toxicity : LD0 (Rat): >= 10,000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 42.2 mg/l  
Exposure time: 4 h



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Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 16,818 mg/kg  
Method: OECD Test Guideline 402

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

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials

**tert-Butyl 2-ethylperoxyhexanoate:**

Acute oral toxicity : LD0 (Rat): >= 10,000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 42.2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 16,818 mg/kg  
Method: OECD Test Guideline 402

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Remarks : May cause skin irritation in susceptible persons.

**Components:**

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

Result : Repeated exposure may cause skin dryness or cracking.

**tert-Butyl 2-ethylperoxyhexanoate:**

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.

**tert-Butyl 2-ethylperoxyhexanoate:**

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

**Serious eye damage/eye irritation**

Not classified based on available information.

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### **Product:**

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

### **Components:**

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

Remarks : No data available

#### **tert-Butyl 2-ethylperoxyhexanoate:**

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

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

Remarks : No data available

#### **tert-Butyl 2-ethylperoxyhexanoate:**

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

### **Respiratory or skin sensitisation**

#### **Skin sensitisation**

May cause an allergic skin reaction.

#### **Respiratory sensitisation**

Not classified based on available information.

### **Product:**

Remarks : Causes sensitisation.

### **Components:**

#### **tert-Butyl 2-ethylperoxyhexanoate:**

Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : May cause sensitisation by skin contact.

#### **tert-Butyl 2-ethylperoxyhexanoate:**

Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : May cause sensitisation by skin contact.

### **Germ cell mutagenicity**

Not classified based on available information.

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### Components:

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

Germ cell mutagenicity - Assessment : No known effect.

#### **tert-Butyl 2-ethylperoxyhexanoate:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: positive

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

Genotoxicity in vivo : Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative

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

Germ cell mutagenicity - Assessment : No known effect.

#### **tert-Butyl 2-ethylperoxyhexanoate:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: positive

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

Genotoxicity in vivo : Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative

### **Carcinogenicity**

Not classified based on available information.

### Components:

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

Carcinogenicity - Assessment : No known effect.

#### **tert-Butyl 2-ethylperoxyhexanoate:**

Remarks : This information is not available.

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

Carcinogenicity - Assessment : No known effect.

**tert-Butyl 2-ethylperoxyhexanoate:**

Remarks : This information is not available.

**Reproductive toxicity**

May damage fertility.

**Components:**

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

Reproductive toxicity - Assessment : No known effect.

**tert-Butyl 2-ethylperoxyhexanoate:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test  
Species: Rat  
Application Route: Oral  
General Toxicity - Parent: NOAEL: 300 mg/kg body weight  
Method: OECD Test Guideline 421

Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
General Toxicity - Parent: NOAEL: 300 mg/kg body weight  
General Toxicity F1: NOAEL: 300 mg/kg body weight  
Fertility: NOAEL Mating/Fertility: 100 mg/kg body weight  
Early Embryonic Development: NOAEL F2: 300 mg/kg body weight  
Method: OECD Test Guideline 443  
GLP: yes

Effects on foetal development : Species: Rat  
Application Route: Oral  
Embryo-foetal toxicity: NOAEL Mating/Fertility: 1,000 mg/kg body weight  
Method: OECD Test Guideline 414

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments.

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

Reproductive toxicity - Assessment : No known effect.

**tert-Butyl 2-ethylperoxyhexanoate:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening

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	test Species: Rat Application Route: Oral General Toxicity - Parent: NOAEL: 300 mg/kg body weight Method: OECD Test Guideline 421
	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Oral General Toxicity - Parent: NOAEL: 300 mg/kg body weight General Toxicity F1: NOAEL: 300 mg/kg body weight Fertility: NOAEL Mating/Fertility: 100 mg/kg body weight Early Embryonic Development: NOAEL F2: 300 mg/kg body weight Method: OECD Test Guideline 443 GLP: yes
Effects on foetal development	: Species: Rat Application Route: Oral Embryo-foetal toxicity: NOAEL Mating/Fertility: 1,000 mg/kg body weight Method: OECD Test Guideline 414
Reproductive toxicity - Assessment	: Clear evidence of adverse effects on sexual function and fertility, based on animal experiments.

### STOT - single exposure

Not classified based on available information.

#### Components:

##### **tert-Butyl 2-ethylperoxyhexanoate:**

Remarks : No data available

##### **tert-Butyl 2-ethylperoxyhexanoate:**

Remarks : No data available

### STOT - repeated exposure

Not classified based on available information.

#### Components:

##### **tert-Butyl 2-ethylperoxyhexanoate:**

Remarks : No data available

##### **tert-Butyl 2-ethylperoxyhexanoate:**

Remarks : No data available

### Repeated dose toxicity

#### Components:

##### **tert-Butyl 2-ethylperoxyhexanoate:**

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Species : Rat, male  
NOAEL : 316 mg/kg  
Exposure time : 28 d  
Method : OECD Test Guideline 407

Species : Rat, female  
NOAEL : 100 mg/kg  
Exposure time : 28 d  
Method : OECD Test Guideline 407

Species : Rat  
NOAEL : 450 mg/kg  
Method : OECD Test Guideline 408

### **tert-Butyl 2-ethylperoxyhexanoate:**

Species : Rat, male  
NOAEL : 316 mg/kg  
Exposure time : 28 d  
Method : OECD Test Guideline 407

Species : Rat, female  
NOAEL : 100 mg/kg  
Exposure time : 28 d  
Method : OECD Test Guideline 407

Species : Rat  
NOAEL : 450 mg/kg  
Method : OECD Test Guideline 408

### **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.

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

May be fatal if swallowed and enters airways.

### **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.

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

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Remarks : May cause headache and dizziness.

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### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

##### Components:

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

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

Toxicity to algae : 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.

##### **tert-Butyl 2-ethylperoxyhexanoate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 8.66 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

NOEC (Poecilia reticulata (guppy)): 2.10 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7.5 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.44 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.018 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50: 64 mg/l

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Exposure time: 0.5 h  
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.45 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

LOEC: 0.87 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

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

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

Toxicity to algae : 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.

### tert-Butyl 2-ethylperoxyhexanoate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 8.66 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

NOEC (Poecilia reticulata (guppy)): 2.10 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7.5 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.44 mg/l



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Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC ( Pseudokirchneriella subcapitata (green algae)): 0.018 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50: 64 mg/l  
Exposure time: 0.5 h  
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.45 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

LOEC: 0.87 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### Persistence and degradability

#### Components:

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

Biodegradability : Result: Not readily biodegradable.

#### **tert-Butyl 2-ethylperoxyhexanoate:**

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

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

Biodegradability : Result: Not readily biodegradable.

#### **tert-Butyl 2-ethylperoxyhexanoate:**

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

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### Bioaccumulative potential

#### Components:

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

Partition coefficient: n-octanol/water : Remarks: No data available

##### **tert-Butyl 2-ethylperoxyhexanoate:**

Partition coefficient: n-octanol/water : log Pow: 4.79 (20 °C)

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

Partition coefficient: n-octanol/water : Remarks: No data available

##### **tert-Butyl 2-ethylperoxyhexanoate:**

Partition coefficient: n-octanol/water : log Pow: 4.79 (20 °C)

### 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.  
Very 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

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UN number : UN 3119  
Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED (tert-BUTYL PEROXY-2-ETHYLHEXANOATE)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2

### IATA-DGR

Not permitted for transport

### IMDG-Code

UN number : UN 3119  
Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED (tert-BUTYL PEROXY-2-ETHYLHEXANOATE)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2  
EmS Code : F-F, S-R  
Marine pollutant : yes

### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

### Special precautions for user

#### Additional advice:

Temperature controlled transport.:  
Control temperature : 30 °C  
Emergency temperature : 35 °C

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 § 3 BGV B4: III (German regulatory requirements)

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

DSL (CA) : All components of this product are on the Canadian DSL  
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  
TCSI (TW) : On the inventory, or in compliance with the inventory

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### 16. OTHER INFORMATION

#### Further 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 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/>

#### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; 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; CPR - Controlled Products Regulations; 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; 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 guid-

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ance 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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