

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Print Date: 30.06.2011

Revision Date : 30.06.2011

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Commercial Product Name: TBPEHC

DE / EN

Version: 1.14

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

#### Product information

Commercial Product Name : **TBPEHC**  
Chemical Name : tert-butylperoxy 2-ethylhexyl carbonate  
CAS-No. : 34443-12-4  
EC-No. : 252-029-5  
Registration number : no data available

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

Use of the Substance/Mixture : polymerisation initiators

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

Company : **United Initiators GmbH & Co. KG**  
Dr. Gustav-Adolph-Str. 3  
82049 Pullach  
Germany  
E-mail address : contact@united-in.com

### 1.4 Emergency telephone number

+49 / 89 / 74422 – 0

In case of an emergency in the United States, contact:

**For chemical Emergency ONLY call CHEMTREC : 1-800-424-9300**

**For ALL other inquiries about this product call :**

**United Initiators Inc.**

**555 Garden Street, Elyria Ohio 44035 at**

**1 (440) 323-3112**

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

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

Organic peroxides, Type D H242: Heating may cause a fire.  
Chronic aquatic toxicity, Category 3 H412: Harmful to aquatic life with long lasting effects.

#### **Classification (67/548/EEC, 1999/45/EC)**

Oxidising R 7: May cause fire.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 2.2 Label elements

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

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Hazard pictograms	:		
Signal word	:	Danger	
Hazard statements	:	H242 H412	Heating may cause a fire. Harmful to aquatic life with long lasting effects.
Precautionary statements	:	<p><b>Prevention:</b> P220  P233 P235 P273 P280</p> <p><b>Disposal:</b> P501</p>	<p>Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials. Keep container tightly closed. Keep cool. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>Dispose of contents/ container to an approved waste disposal plant.</p>

## Labelling according to EC Directives: 67/548/EEC

Hazard symbols	:		
		Oxidising	
R-phrase(s)	:	R 7 R52/53	May cause fire. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase(s)	:	S 3/7 S14  S36/37/39	Keep container tightly closed in a cool place. Keep away from strong acids, bases, heavy metal salts and other reducing substances. Wear suitable protective clothing, gloves and eye/face protection.

### 2.3 Other hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

## 3. Composition/information on ingredients

### 3.1 Substances

Chemical nature : technically pure liquid

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The product is a chemical substance within the meaning of the REACH Regulation (1907/2006/EC). The following table contains the main constituent at the top. Further dangerous ingredients are mentioned when it is necessary in accordance with Appendix II No. 3.1 of the REACH Regulation.

Chemical Name	CAS-No.	EC-No.	Index-No.
tert-butylperoxy 2-ethylhexyl carbonate	34443-12-4	252-029-5	

## 4. First aid measures

### 4.1 Description of first aid measures

- General advice : Take off all contaminated clothing immediately. Never give anything by mouth to an unconscious person. Remove from exposure, lie down. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- If inhaled : Remove to fresh air. Call a physician immediately.
- In case of skin contact : Wash off immediately with soap and plenty of water.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- If swallowed : Clean mouth with water and drink afterwards plenty of water. If a person vomits when lying on his back, place him in the recovery position. Do NOT induce vomiting. If swallowed, seek medical advice immediately and show this container or label.

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

no data available

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

no data available

## 5. Firefighting measures

### 5.1 Extinguishing media

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

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

- Specific hazards during firefight- : Cool closed containers exposed to fire with water spray. Do not allow

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ing

run-off from fire fighting to enter drains or water courses.

## 5.3 Advice for firefighters

Special protective equipment for firefighters : Use personal protective equipment.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## 6. Accidental release measures

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

Wear respiratory protection. Wear personal protective equipment.

### 6.2 Environmental precautions

Avoid subsoil penetration. Do not allow material to contaminate ground water system. Do not contaminate water. If the product contaminates rivers and lakes or drains inform respective authorities. Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Remove mechanically and with care (e.g. with clean polyethylene plastic shovel). Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

### 6.4 Reference to other sections

see chapter: 7, 8, 11, 12 and 13

### 6.5 Other information

Never add other substances or waste material to product residue. Move product residue to a safe place and dispose of properly.

## 7. Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.

Dust explosion class : no data available

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

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Requirements for storage areas and containers : 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. Keep container tightly closed. No smoking.

Further information on storage conditions : Avoid impurities (e.g. rust, dust, ash), risk of decomposition.

Advice on common storage : Store apart from other dangerous and incompatible substances.

Storage temperature : < 20 °C

Other data : liquid up to -30 °C

## 7.3 Specific end uses

no data available

## 8. Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

Other information on limit values: see chapter 16

### 8.2 Exposure controls

#### Engineering measures

Provide adequate ventilation.

#### Personal protective equipment

Respiratory protection : Short duration filter unit: Filter A

#### Hand protection

Material : butyl-rubber

Glove thickness : 0,5 mm

Break through time : >= 8 h

Remarks : Skin should be washed after contact.

Eye protection : Tightly fitting safety goggles  
Face protection

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Skin and body protection : Protective suit  
Remove and wash contaminated clothing before re-use.

Hygiene measures : Wash hands before breaks and immediately after handling the product.  
Keep away from food, drink and animal feedingstuffs.

### Environmental exposure controls

General advice : Avoid subsoil penetration.  
Do not allow material to contaminate ground water system.  
Do not contaminate water.  
If the product contaminates rivers and lakes or drains inform respective authorities.  
Do not let product enter drains.

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance : liquid  
Colour : colourless  
Odour : very faint ester-like  
Odour Threshold : Not relevant  
pH : no data available  
Melting point/freezing point : < -30 °C

Initial boiling point and boiling range : not applicable, Decomposition  
Flash point : 66 °C  
Method: ISO 3679, Seta-Flash

Evaporation rate : Not relevant  
Flammability (solid, gas) : not applicable

Lower explosion limit : no data available  
Upper explosion limit : no data available  
Vapour pressure : no data available  
Relative vapour density : no data available  
Density : 0,93 g/cm<sup>3</sup> at 20 °C

Water solubility : immiscible

Partition coefficient: n-octanol/water : no data available  
Solubility in other solvents : no data available  
Autoignition temperature : not applicable, Decomposes on heating.  
Decomposition temperature : ca. 70 °C, SADT (UN test H.4), SADT possible at temperatures above approximately 70 °C.  
Viscosity, dynamic : 6 mPa.s at 20 °C

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Viscosity, kinematic : no data available  
Explosive properties : no data available  
Oxidizing properties : Organic peroxide

## 9.2 Other information

Ignition temperature : not applicable  
Refraction index : 1,428  
at 20 °C

## 10. Stability and reactivity

### 10.1 Reactivity

Stable under recommended storage conditions.

### 10.2 Chemical stability

Contact with incompatible substances can cause disintegration at or below SADT.

### 10.3 Possibility of hazardous reactions

Vapours may form explosive mixture with air.  
Stability: Stable under recommended storage conditions.

### 10.4 Conditions to avoid

Keep away from heat and sources of ignition.

### 10.5 Incompatible materials

Materials to avoid : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents, Avoid impurities (e.g. rust, dust, ash), risk of decomposition.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition  
Thermal decomposition : ca. 70 °C  
Method: SADT (UN test H.4)  
Note: SADT possible at temperatures above approximately 70 °C.

## 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Acute oral toxicity : LD50 rat: > 5.000 mg/kg  
Test substance: tert-butylperoxy-2-ethylhexyl carbonate; >95%

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Acute inhalation toxicity:

no data available

Acute dermal toxicity : LD0 rabbit: > 2.000 mg/kg

**Skin corrosion/irritation**

Skin irritation : No skin irritation

**Serious eye damage/eye irritation**

Eye irritation : No eye irritation

**Respiratory or skin sensitization**

Sensitisation : Result: Product is not sensitizing.  
Method: Maximisation Test  
Test substance: tert-butylperoxy-2-ethylhexyl carbonate

**Germ cell mutagenicity**

Genotoxicity in vitro : Type: Ames test  
Result: Mutagenic

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**STOT - single exposure**

no data available

**STOT - repeated exposure**

no data available

**Aspiration hazard**

Aspiration toxicity

no data available

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## 12. Ecological information

### 12.1 Toxicity

Toxicity to daphnia and other aquatic invertebrates. : EC50 (Daphnia): > 100 mg/l  
Exposure time: 48 h

Toxicity to algae : no data available

Toxicity to bacteria : EC50 (Bacteria): > 1.000 mg/l  
Exposure time: 3 h

### 12.2 Persistence and degradability

Biodegradability : Result: Not readily biodegradable.  
Method: CO2 Evolution Test

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

### 12.6 Other adverse effects

no data available

## 13. Disposal considerations

### 13.1 Waste treatment methods

Advice on disposal and packaging : Disposal:  
Dispose of in conjunction with appropriate waste disposal authorities and in accordance with disposal regulations.  
Waste codes should be assigned by the user based on the application for which the product was used.

## 14. Transport information

### ADR

UN number : 3105

Description of the goods : ORGANIC PEROXIDE TYPE D, LIQUID

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(tert-butylperoxy 2-ethylhexyl carbonate)

Class : 5.2  
Packing group : --  
Classification Code : P1  
Labels : 5.2  
Limited quantity : LQ16  
Tunnel restriction code : (D)  
Environmentally hazardous : no

#### RID

UN number : 3105  
Description of the goods : ORGANIC PEROXIDE TYPE D, LIQUID  
(tert-butylperoxy 2-ethylhexyl carbonate)

Class : 5.2  
Packing group : --  
Classification Code : P1  
Hazard identification No : 539  
Labels : 5.2  
Limited quantity : LQ16  
Environmentally hazardous : no

#### IATA

UN number : 3105  
Description of the goods : Organic peroxide type D, liquid  
(tert-butylperoxy 2-ethylhexyl carbonate)

Class : 5.2  
Packing group : --  
Labels : 5.2 (HEAT)  
Packing instruction (cargo aircraft) : 570  
Environmentally hazardous : no  
Packing instruction (passenger aircraft) : 570

#### IMDG

UN number : 3105  
Description of the goods : ORGANIC PEROXIDE TYPE D, LIQUID  
(tert-butylperoxy 2-ethylhexyl carbonate)

Class : 5.2  
Packing group : --  
Labels : 5.2  
EmS Number 1 : F-J  
EmS Number 2 : S-R

Marine pollutant : no

**Special precautions for user**  
see chapter: 6, 7 and 8

## 15. Regulatory information

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

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## National legislation

Water contaminating class (Germany) : WGK 2 (water endangering)  
VwVwS (German water pollution authority), appendix 3

Other regulations : BGV B4 organische Peroxide. (German regulatory requirements)  
BG-Merkblatt M001 beachten (German regulatory requirements)  
Produkt unterliegt nicht dem Sprengstoffgesetz (SprengG). (German regulatory requirements) Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers. Take note of Dir 94/33/EC on the protection of young people at work. Störfallverordnung Anhang I (German regulatory requirements)

Gefahrengruppe nach § 3 BGV B4: (German regulatory requirements) Ib (German regulatory requirements)

## 15.2 Chemical Safety Assessment

no data available

## 16. Other information

### Full text of R-phrases referred to under sections 2 and 3

R 7 May cause fire.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

H242 Heating may cause a fire.  
H412 Harmful to aquatic life with long lasting effects.

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.