

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Print Date: 30.05.2011

Revision Date : 30.05.2011

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Commercial Product Name: DHBP

DE / EN

Version: 2.13

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

1.1 Product identifier

Product information

Commercial Product Name : **DHBP**
Chemical Name : 2,5-dimethyl-2,5-di(tert-butylperoxy)-hexane
CAS-No. : 78-63-7
EC-No. : 201-128-1
Registration number : no data available

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

Use of the Substance/Mixture : Industrial use chemicals

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 C
Skin irritation, Category 2

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

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

Explosive

R 2: Risk of explosion by shock, friction, fire or other sources of ignition.

R 7: May cause fire.

Irritant

R38: Irritating to skin.

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

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

Precautionary statements : **Prevention:**
P220 Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials.
P233 Keep container tightly closed.
P235 Keep cool.
P262 Do not get in eyes, on skin, or on clothing.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

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

Labelling according to EC Directives: 1999/45/EC

Hazard symbols :



Explosive

Irritant

R-phrases) : R 2 Risk of explosion by shock, friction, fire or other sources of ignition.
R 7 May cause fire.
R38 Irritating to skin.

S-phrases) : S 3/7 Keep container tightly closed in a cool place.
S14 Keep away from strong acids, bases, heavy metal salts and other reducing substances.
S36/37/39 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).

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3. Composition/information on ingredients

3.1 Substances

Chemical nature : technically pure liquid

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.
2,5-dimethyl-2,5-di(tert-butylperoxy)-hexane	78-63-7	201-128-1	

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. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon

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dioxide.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting : Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

Special protective equipment for fire-fighters : 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.

Advice on protection against fire and explosion : Avoid shock and friction.

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Dust explosion class : no data available

7.2 Conditions for safe storage, including any incompatibilities

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 : 10 - 30 °C

Other data : liquid up to 10 °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

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Face protection

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	: ether-like
Odour Threshold	: Not relevant
pH	: no data available
Melting point/freezing point	: no data available
Initial boiling point and boiling range	: not applicable, Decomposition
Flash point	: 74 °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	: 8 hPa at 50 °C 27 hPa at 80 °C 95 hPa at 110 °C
Relative vapour density	: no data available
Density	: 0,88 g/cm ³ at 20 °C
Water solubility	: no data available
Partition coefficient: n-	: no data available

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octanol/water

Solubility in other solvents : Mixable
Medium: Alcohol

Mixable
Medium: Esters

Autoignition temperature : not applicable, Decomposes on heating.

Decomposition temperature : ca. 90 °C, SADT (UN test H.4), SADT possible at temperatures above approximately 90 °C.

Viscosity, dynamic : 8 mPa.s at 20 °C

Viscosity, kinematic : no data available

Explosive properties : Risk of explosion by shock, friction, fire or other sources of ignition.

Oxidizing properties : Organic peroxide

9.2 Other information

Ignition temperature : no data available

Refraction index : 1,422
at 20 °C

Miscibility in water : immiscible

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

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Thermal decomposition : ca. 90 °C
Method: SADT (UN test H.4)
Note: SADT possible at temperatures above approximately 90 °C.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity : LD50 rat: > 2.000 mg/kg
Test substance: 2,5-dimethyl-2,5-di(tert-butylperoxy)-hexane, > 90%

Acute inhalation toxicity:

no data available

Acute dermal toxicity : LD50 rat: 4.100 mg/kg
Test substance: 2,5-dimethyl-2,5-di(tert-butylperoxy)-hexane, 90%

Skin corrosion/irritation

Skin irritation : Irritating to skin.

Serious eye damage/eye irritation

Eye irritation : No eye irritation

Respiratory or skin sensitization

Sensitisation : Result: Product is not sensitizing.
Method: Buehler Test
Test substance: 2,5-dimethyl-2,5-di(tert-butylperoxy)-hexane, 92,6%

Germ cell mutagenicity

Genotoxicity in vitro : Result: Not mutagenic in Ames Test.

Carcinogenicity

no data available

Reproductive toxicity

no data available

Teratogenicity

no data available

STOT - single exposure

no data available

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STOT - repeated exposure

no data available

Aspiration hazard

Aspiration toxicity

no data available

12. Ecological information

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

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

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UN number : 3103
 Description of the goods : ORGANIC PEROXIDE TYPE C, LIQUID
 (2,5-dimethyl-2,5-di(tert-butylperoxy)-hexane)
 Class : 5.2
 Packing group : --
 Classification Code : P1
 Labels : 5.2
 Limited quantity : LQ14
 Tunnel restriction code : (D)
 Environmentally hazardous : no

RID

UN number : 3103
 Description of the goods : ORGANIC PEROXIDE TYPE C, LIQUID
 (2,5-dimethyl-2,5-di(tert-butylperoxy)-hexane)
 Class : 5.2
 Packing group : --
 Classification Code : P1
 Hazard identification No : 539
 Labels : 5.2
 Limited quantity : LQ14
 Environmentally hazardous : no

IATA

UN number : 3103
 Description of the goods : Organic peroxide type C, liquid
 (2,5-dimethyl-2,5-di(tert-butylperoxy)-hexane)
 Class : 5.2
 Packing group : --
 Labels : 5.2 (HEAT)
 Packing instruction (cargo air-
 craft) : 570
 Environmentally hazardous : no
 Packing instruction (passenger
 aircraft) : 570

IMDG

UN number : 3103
 Description of the goods : ORGANIC PEROXIDE TYPE C, LIQUID
 (2,5-dimethyl-2,5-di(tert-butylperoxy)-hexane)
 Class : 5.2
 Packing group : --
 Labels : 5.2
 EmSNumber 1 : F-J
 EmS Number 2 : S-R
 Marine pollutant : no

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

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15. Regulatory information

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

National legislation

Water contaminating class (Germany) : WGK 1 (slightly water endangering)
VwVwS (German water pollution authority), appendix 2

Other regulations : BGV B4 organische Peroxide. (German regulatory requirements)
BG-Merkblatt M001 beachten (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) Produkt unterliegt dem Sprengstoffgesetz (SprengG; Stoffgruppe C). (German regulatory requirements)

Gefahrengruppe nach § 3 BGV B4: (German regulatory requirements) Ib, S+ (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 2 Risk of explosion by shock, friction, fire or other sources of ignition.
R 7 May cause fire.
R38 Irritating to skin.

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

H242 Heating may cause a fire.
H315 Causes skin irritation.

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.