

Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II

Version: 1.0/EN
Product name: DTBP

Revision date: 01/08/2015
Printing date: 01/08/2015

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name: DTBP
Substance name: Di-tert-butyl peroxide
REACH registration No.: The substance has been registered.
Index No.: 617-001-00-2
CAS No.: 110-05-4
EC No.: 203-733-6

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

Relevant identified uses: Polymerization initiator.
Uses advised against: Industrial use only.

1.3 Details of the supplier of the SDS

Company name (Manufacture): NANTONG KEZHONG CHEMICAL TECHNOLOGY CO.,LTD.
Address: 26nd Group,Xulou Village,Matang Town,Rudong Country,Jiangsu Province
Web: <http://ntkzhg.com/>
E-mail: 86989717@qq.com
Telephone: 13382323271
Fax: 0513-84517958

1.4 Emergency telephone number

Call the emergency number: +86-513-84110288

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008[CLP/GHS]

Hazard classe(s) and Hazard categorie(s)	Hazard Statements Code(s)
Organic peroxides Types E	H242
Flammable Liquid Category 2	H225
Germ cell mutagenicity Category 2	H341

Classification according to Council Directive 67/548/EEC

O; R7
F; R11
Muta Cat 3; R68

Additional information

Full text of R-phrase(s) and H-statement(s): see section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

Product identifier:

Chemical name: Di-tert-butyl peroxide
Index No.: 617-001-00-2

Hazard pictogram(s):



GHS02



GHS08

Signal word: Danger

Hazard statement(s):

H242 Heating may cause a fire.
H225 Highly flammable liquid and vapour.
H341 Suspected of causing genetic defects.

Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II

Version: 1.0/EN
Product name: DTBP

Revision date: 01/08/2015
Printing date: 01/08/2015

Precautionary statements:

- Prevention:** P210 Keep away from heat/sparks/open flames/hot surfaces.-No smoking.
P220 Keep/Store away from reducing agents (e.g.amines) , acids, alkalies , dirt, rust, and combustible materials.
P233 Keep container tightly closed.
P234 Keep only in original container.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P281 Use personal protective equipment as required.
- Response:** P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370 + P378 In case of fire: Use waterspray, foam, sand, dry chemical powder and CO₂ for extinction.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
- Storage:** P411 Store at temperatures not exceeding 40 °C.
P403 + P235 Store in a well-ventilated place. Keep cool.
P410 Protect from sunlight.
P420 Store away from other materials.
P405 Store locked up.
- Disposal:** P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental Hazard information (EU):

No information available.

Special rules for supplemental label elements for certain mixtures:

No information available.

2.3 Other hazards

No information available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance information

CAS No.: 110-05-4
EC No.: 203-733-6
Molecular Formula: C₈H₁₈O₂
Synonyms: Di-tert-butyl peroxide; 2-tert-Butylperoxy-2-methylpropane
Purity: 98 % (The rest unspecified impurities are not hazard.)

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General informations:

In all cases of doubt, or when symptoms persist, seek medical attention.

In case of inhalation:

Remove to fresh air. If not breathing, give artificial respiration.

Oxygen may additionally be given, by trained personnel, if it is available. Get medical attention if symptoms occur.

In case of skin contact:

Immediately flush skin with plenty of water. Remove contaminated clothing and shoes.

Get medical attention if irritation persists. Wash clothing before reuse. Thoroughly clean or destroy contaminated.

In case of eye contact:

Immediately flush eyes with plenty of water. If easy to do, contact lenses should be removed during the flushing, by trained personnel. Hold the eyelids apart during the flushing to ensure rinsing the entire surface of the eye and lids with water.

Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II

Version: 1.0/EN
Product name: DTBP

Revision date: 01/08/2015
Printing date: 01/08/2015

Get medical attention if irritation persists.

In case of ingestion:

Call a physician or a poison control center immediately. Induce vomiting only if directed by medical personnel. The patient should lie on their left side while vomiting to reduce the risk of aspiration. Never give anything by mouth to an unconscious or convulsing person.

Notes for the doctor:

Persons with pre-existing skin, eye, or respiratory disease may be at increased risk from the irritant or allergic properties of this material. Attending physician should treat exposed patients symptomatically.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: Cough. Shortness of breath. Sore throat. May be harmful if inhaled. May cause respiratory tract irritation.

Skin contact: May be harmful if absorbed through skin. May cause skin irritation.

Eyes contact: Redness. Pain. May cause eye irritation.

Ingestion: Abdominal cramps. Vomiting. May be harmful if swallowed.

4.3 Indication of the immediate medical attention and special treatment needed

Persons with pre-existing skin, eye, or respiratory disease may be at increased risk. Attending physician should treat exposed patients symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Water spray, foam, sand, dry chemical powder, CO₂.

Unsuitable extinguishing media:

Halones.

5.2 Special hazards arising from the substance or mixture

Decomposition under effect of heating. If involved in a fire, it will support combustion. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapours may travel to a source of ignition and flash back. Hazardous decomposition/Combustion products: Carbon monoxide, acetone, methane, tert-butanol.

5.3 Advice for fire-fighters

Evacuate personnel to safe area. Firefighters must wear fire resistant protective equipment. Wear approved respirator and protective gloves. Evacuate all non-essential personnel. Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition. Cool closed containers with water. Water used to extinguish a fire should not be allowed to enter the drainage system or water courses. After a fire, ventilate thoroughly the area and soak with water, clean the walls and metallic surfaces.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe fumes/vapour. For personal protection see Section 8.

6.2 Environmental precautions

Do not allow to enter drains or water courses.

6.3 Methods and material for containment and cleaning up

Stop leakage if possible. Eliminate all sources of ignition, and do not generate flames or sparks. Take precautionary measures against static discharges. Collect as much as possible in a clean container for (preferable) reuse or disposal. Cover the remainder with inert absorbent (e.g. vermiculite) for disposal. Keep contents moist. The waste should NOT be confined. Flush surroundings with large amounts of water and soap.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: HANDLING AND STORAGE

Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II

Version: 1.0/EN
Product name: DTBP

Revision date: 01/08/2015
Printing date: 01/08/2015

7.1 Precautions for safe handling

Never weigh out in the storage room. When using does not eat, drink or smoke. Do not pipet by mouth. Do not breathe fumes/vapour. Handle in well ventilated areas. Eliminate all sources of ignition, and do not generate flames or sparks. Take precautionary measures against static discharges. Apply earthing when transferring from one container to another. Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).

Fire and explosion prevention:

Use explosion protected equipment. Keep away from sources of ignition - No smoking. Use non-sparking tools in area's where explosive vapor air mixtures may occur. Do not cut or weld on or near this container even when empty. Blanketing the product with nitrogen reduces the flammability, but is not fully effective above 55 °C. It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded. Wash hands thoroughly after handling or contact. Keep working clothing separately and do not take them home.

7.2 Conditions for safe storage, including any incompatibilities

Keep product and emptied container away from heat and sources of ignition. Confinement must be avoided. Avoid contact with skin and eyes. Store in accordance with local/national regulations. Keep away from food, drink and animal feeding-stuffs. Store in a dry well ventilated place away from sources of heat and direct sunlight. Store separate from other chemicals, such as: reducing agents (e.g. amines), acids, alkalies, dirt, rust, and combustible materials. Keep only in the original container. Keep container upright to prevent leakage. Keep container tightly closed.

Recommended storage temperature: below 30 °C. If product freezes or separates, contact Nantong Kezhong.

7.3 Specific end use(s)

Not available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values:

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls:

Ensure good ventilation and local exhaustion of the working area. Explosion proof ventilation recommended. Emergency-shower and facilities for rinsing eyes must be accessible. Launder clothes before reuse.

Personal protective equipment:

Eye and face protection: Wear eye/face protection.
Skin protection: Wear suitable protective gloves of neoprene or synthetic rubber. Wear suitable protective clothing.
Respiratory protection: The usual precautionary measures for handling chemicals should be observed.
Thermal hazards: Not available.
other information: Emergency-shower and facilities for rinsing eyes must be accessible. Launder clothes before reuse.

Environmental exposure controls:

Should not be released into the environment. Prevent from entering sewers, basements and workpans, or any place where its accumulation can be dangerous.

Consumer exposure controls:

Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and at the end of workday.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Liquid
Colour:	Colorless to pale yellow
Odour:	Faint
pH:	No data available.
Melting point/freezing point:	-40 °C

Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II

Version: 1.0/EN

Product name: DTBP

Revision date: 01/08/2015

Printing date: 01/08/2015

Boiling point:	111 °C
Flash point:	< 0 °C
Flammability (solid, gas):	Highly flammable. Decomposition products may be flammable.
Vapour pressure:	24 hpa, at 20 °C
Density:	0.8 g/ml at 20 °C
Refraction index:	1.39 at 20 °C
Solubility(ies):	Immiscible. Soluble in most organic solvents.
Partition coefficient (n -octanol/water):	Log Pow = 3.45(Merck)
Explosive properties:	Lower explosion limit: 0.74 Vol.-%, 45 g/m ³ ; Upper explosion limit: 100 Vol.-%.(IFA GESTIS)
Viscosity:	1 mPa.s at 20 °C
Active oxygen content:	10.72%
Self Accelerating Decomposition Temperature (SADT):	80 °C

9.2 Other information

No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Polymerization does not occur.

10.2 Chemical stability

SADT is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the following temperature: 80 °C. Contact with incompatible substances can cause decomposition at or below the SADT 80 °C.

10.3 Possibility of hazardous reactions

The substance decomposes on heating at 111 °C, which increases fire hazard. The substance is a strong oxidant and reacts violently with combustible and reducing materials.

10.4 Conditions to avoid

To maintain quality store in original closed container below: 30 °C. A high degree of confinement must be avoided.

10.5 Incompatible materials

Avoid contact with rust, iron and Copper. Contact with incompatible materials such as acids, alkalis, heavy metals and reducing agents will result in hazardous decomposition. Do not mix with peroxide accelerators. Use only Stainless steel 316, PVC, polyethylene or glass-lined equipment.

10.6 Hazardous decomposition products

Hazardous decomposition products; Carbon monoxide, Acetone, Methane, tert-Butanol.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Toxicokinetics, metabolism and distribution

No data available.

11.2 Information on toxicological effects

Acute toxicity:

Acute Oral toxicity:	LD ₅₀ > 25000 mg/kg (rat) (IUCLID);
Acute Inhalation toxicity:	LC ₅₀ > 24.5 mg/l/4h (rat);
Acute Dermal toxicity:	LD ₅₀ > 19000 mg/kg (rabbit).

Skin corrosion/irritation:

Skin, rabbit: not irritating (IUCLID).

Serious eye damage/irritation:

Eyes, rabbit: slightly irritating (IUCLID).

Respiratory or skin sensitization:

Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II

Version: 1.0/EN
Product name: DTBP

Revision date: 01/08/2015
Printing date: 01/08/2015

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

CMR effects (Carcinogenicity, Mutagenicity and Toxicity for Reproduction):

This product is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or OSHA classification.
But it is suspected of causing genetic defects.

STOT-single exposure and repeated exposure:

Effects of short-term exposure: The substance irritates the eyes and the respiratory tract.

Aspiration hazard:

No data available.

Additional information:

RTECS No: ER2450000

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute toxicity	Effect dose	Species	Method
Acute fish toxicity:	LC ₅₀ > 1000 mg/l/96h	<i>Poecilia reticulata</i>	OECD Guide-line 203
Acute daphnia toxicity:	No data available.		
Acute bacteria toxicity:	EC ₅₀ > 1000 mg/l	<i>activated sludge</i>	Other

12.2 Persistence and degradability

Biologic degradation: Distribution preferentially in air.

12.3 Bioaccumulative potential

Behavior in environmental compartments: Distribution: log Pow: 3.45 (calculated) (Lit.).
An appreciable bioaccumulation potential is to be expected (log Po/w >3).

12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices, the Koc for bis(1,1-dimethylethyl)peroxide can be estimated to be about 720(SRC). According to a recommended classification scheme, this estimated Koc value suggests that bis(1,1-dimethylethyl)peroxide is expected to have moderate mobility in soil(SRC).(HSDB)

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Other adverse effects

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Due to the high risk of contamination recycling/recovery is not recommended. Waste disposal in accordance with regulations (most probably controlled incineration). According to local regulations. Emptied container might retain product residues. Follow all warnings even after the container is emptied. Do not shred containers before they are thoroughly cleaned from product residues.

SECTION 14: TRANSPORT INFORMATION

14.1 Land transport (ADR/RID/GGVSE)

UN-No.: 3107
Official transport designation: ORGANIC PEROXIDE TYPE E, LIQUID (Di-tert-butyl peroxide)
Class: 5.2
Classification Code: P1
Packing group: II
Hazard label: 5.2

14.2 Sea transport (IMDG-Code/GGVSee)

Proper Shipping Name: ORGANIC PEROXIDE TYPE E, LIQUID (Di-tert-butyl peroxide)
Class: 5.2

Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II

Version: 1.0/EN

Product name: DTBP

Revision date: 01/08/2015

Printing date: 01/08/2015

UN-No.: 3107
Packing group: II
EmS No.: F-J, S-R
Marine pollutant: No

14.3 Air transport (ICAO-TI/IATA-DGR)

Proper Shipping Name: ORGANIC PEROXIDE TYPE E, LIQUID (Di-tert-butyl peroxide)
Class: 5.2
UN-No.: 3107
Packing group: II

14.4 Additional information

No data available.

SECTION 15: REGULATORY INFORMATION

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

EU regulation:

Authorisations: No information available.
Restrictions on use: No information available.
EINECS: CAS# 110-05-4 is listed in the inventory.
DSD (67/548/EEC): CAS# 110-05-4 is listed in the Annex I.

Other chemical regulation:

USA - TSCA: CAS# 110-05-4 is listed in the inventory.
Canada - DSL: CAS# 110-05-4 is listed in the inventory.
Australia - AICS: CAS# 110-05-4 is listed in the inventory.
Korea - ECL: CAS# 110-05-4 is listed in the inventory.
Japan - ENCS: CAS# 110-05-4 is listed in the inventory.
China - IECSC: CAS# 110-05-4 is listed in the inventory.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

16.1 Revision Information:

Date of the previous revision: Not applicable.
Date of this revision: 23/08/2010
Revision summary: New SDS

16.2 Abbreviations and acronyms

GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
CLP: EU regulation (EC) No 1272/2008 on classification, labelling and packaging of chemical substances and mixtures.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
EINECS: European Inventory of Existing Commercial Chemical Substances.
IARC: International agency for research on cancer.
RID: European Rail Transport.
IMDG: International Maritime Code for Dangerous Goods.
IATA: International Air Transport Association.
OSHA: The United States Occupational Safety and Health Administration.
TSCA: Toxic Substances Control Act, The American chemical inventory.
DSD: Dangerous Substance Directive (67/548/EEC).
DSL: Domestic Substances List, The Canadian chemical inventory.
AICS: The Australian Inventory of Chemical Substances.
ECL: Existing Chemicals List, the Korean chemical inventory.
ENCS: Japanese Existing and New Chemical Substances
IECSC: Inventory of existing chemical substances in China.

Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II

Version: 1.0/EN
Product name: DTBP

Revision date: 01/08/2015
Printing date: 01/08/2015

16.3 Key literature references and sources for data

ESIS: European Chemical Substances Information System.
IUCLID Dataset.
ICSC: International Chemical Safety Cards.
HSDB: Hazardous Substances Data Bank of United States National Library of Medicine.
Final HPV Data Summary For Benzoyl Chloride.

16.4 Relevant R-phrases and H-statements

R-phrases (code and full text):

R7: May cause fire.
R11: Highly flammable.
R68: Possible risks of irreversible effects.

H-statements (code and full text):

H242 Heating may cause a fire.
H225 Highly flammable liquid and vapour.
H341 Suspected of causing genetic defects.

16.5 Training advice

No data available.

16.6 Declare to reader

The information in this Safety Data Sheet (SDS) was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. According to REACH Article 31(5), the SDS shall be supplied in an official language of the Member State(s) where the substance or mixture is placed on the market, unless the recipient Member State(s) concerned provide otherwise. It should also be noted that this SDS is applicable to the countries with English as an official language.

----- End of the SDS -----