

Safety Data Sheet

Version: 1.0/EN
Trade name: TBPB

Revision date: 15/07/2015
Printing date: 28/07/2015

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

1.1 Product identifier

Trade name: TBPB
Substance name: Tert-butyl perbenzoate
CAS No.: 614-45-9
EC No.: 210-382-2

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 Peroxide, Type C	H242
Skin Irritation, Category 2	H315
Eye Irritation, Category 2	H319
Aquatic Acute Category 1	H400

Classification according to Council Directive 67/548/EEC

E; R2. - O; R7. - Xi; R36/38.

2.2 Label elements

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

Product identifier:

Chemical name: Tert-butyl perbenzoate

Hazard pictogram(s):



GHS02



GHS07



GHS09

Signal word: Danger

Hazard statement(s):

H242 Heating may cause a fire.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.

Precautionary statements:

Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces.-No smoking.
P220 Keep/Store away from clothing/combustible materials.
P234 Keep only in original container.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash hands and contaminated skin thoroughly after handling.

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Response: P273 Avoid release to the environment.
P370 + P378 In case of fire: Use water spray, foam, sand, dry chemical powder, CO2 for extinction.
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.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contacts lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists Get medical advice/attention.
P391 Collect spillage.

Storage: P411+P235 Store at temperatures not exceeding 40 °C., Keep cool.
P410 Protect from sunlight.
P420 Store away from other materials.

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.: 614-45-9
EC No.: 210-382-2
Molecular Formula: C₁₁H₁₄O₃
Synonyms: Tert-butyl perbenzoate, Chaloxyd tbpb
Purity: ≥98.5%

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 shoes.

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. 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:

Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident.

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4.2 Most important symptoms and effects, both acute and delayed

Irritating to skin.

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 from the irritant or allergic properties of this material. 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

Reignition may occur. Decomposition under effect of heating. If involved in a fire, it will support combustion. Vapours may form explosive mixtures with air.

5.3 Advice for fire-fighters

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. Avoid contact with skin and eyes. 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

7.1 Precautions for safe handling

Never weigh out in the storage room. When using do not eat, drink or smoke. 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. Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps). Keep product and emptied container away from heat and sources of ignition.

7.2 Conditions for safe storage, including any incompatibilities

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. Keep only in the original container. Keep container upright to prevent leakage.

Avoid temperatures below 10 °C. If product freezes or separates, contact Nantong Kezhong. For maximum quality store below:

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30 °C. If low colour is critical to the customer, then the temperature should be kept 10~15 °C.

Fire and explosion prevention: Use explosion protected equipment. Keep away from sources of ignition - No smoking. Use non-sparking tools in areas 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.

7.3 Specific end use(s)

Not available.

7.4 Additional information

It is recommended to use electrical equipment of temperature group T3.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values:

There are no currently occupational exposure limit values established for this substance.

8.2 Exposure controls

Appropriate engineering controls:

Ensure good ventilation and local exhaust 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 clothing.
Respiratory protection: Do not breathe vapour! In case of insufficient ventilation wear suitable respiratory equipment (respirator with Filter A).
Thermal hazards: Not available.

Environmental exposure controls:

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:	Characteristic
Melting point/freezing point:	8 °C
Boiling point:	Not applicable (Decomposes).
Flash point:	96 °C
Vapour pressure:	0.33 mm Hg at 50 °C(HSDB)
Density:	1.04 g/cm ³ at 20 °C
Refraction index:	1.50 at 20 °C
Viscosity:	8 mPa.s at 20 °C
Solubility(ies):	Immiscible in water, Soluble in most organic solvents.
Active oxygen content:	≥8.12 %
Self-accelerating decomposition temperature(SADT):	60 °C
Partition coefficient (n -octanol/water):	Log Pow = 2.89(Method: calculated)
Explosive properties:	Potentially explosive when heated above 115 °C. (HSDB)

9.2 Other information

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No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Polymerization does not occur.

10.2 Chemical stability

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: 60 °C.

10.3 Possibility of hazardous reactions

Contact with incompatible materials such as acids, alkalis, heavy metals and reducing agents will result in hazardous decomposition at or below the SADT 60 °C.

10.4 Conditions to avoid

Avoid temperatures below 10 °C. To maintain quality store in original closed container below: 30 °C. (If low colour is critical to the customer, then the temperature should be kept 10~15°C).

Confinement must be avoided.

10.5 Incompatible materials

Avoid contact with rust, iron and copper. Do not mix with peroxide accelerators.
Use only stainless steel 316, PVC, polyethylene or glass-lined equipment.

10.6 Hazardous decomposition products

Hazardous decomposition/Combustion products: carbon oxide, benzoic acid, tert-Butanol, acetone, benzene.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Toxicokinetics, metabolism and distribution

Not available.

11.2 Information on toxicological effects

Acute toxicity:

Acute Oral toxicity: LD₅₀ > 2000 mg/kg (rat);
Acute Inhalation toxicity: LC₅₀ > 200 mg/l/4h (rat);
Acute Dermal toxicity: LD₅₀ > 2000 mg/kg (rat).

Skin corrosion/irritation:

Skin, rabbit: Moderately irritating.

Serious eye damage/irritation:

Eyes, rabbit: Mildly irritating.

Respiratory or skin sensitization:

Not sensitizing

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

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, ACGIH, NTP, OSHA.

STOT-single exposure and repeated exposure:

No data available.

Aspiration hazard:

No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute toxicity	Effect dose	Species	Method
Acute fish toxicity:	LC ₅₀ = 8.6mg/l/96h	<i>Poecilia reticulata</i>	Other

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Acute bacteria toxicity: EC₅₀ = 43mg/l *Activated sludge* Other
Acute algae toxicity: IC₅₀ = 1.3 mg/l/72h *Pseudokirchneriella subcapitata* Other

12.2 Persistence and degradability

Biodegradability. Result: Readily biodegradable.

12.3 Bioaccumulative potential

Log Pow: 2.89, method: (calculated). No appreciable bioaccumulation potential is to be expected (log Pow 1-3).

12.4 Mobility in soil

According to the Koc for peroxybenzoic acid, t-butyl ester can be estimated to be about 750; this estimated Koc value suggests that peroxybenzoic acid, t-butyl ester is expected to have low mobility in soil.(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

Product: Due to the high risk of contamination recycling/recovery is not recommended. Waste disposal in accordance with regulations (most probably controlled incineration).

Contaminated packaging: 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.: 3103
Official transport designation: ORGANIC PEROXIDE TYPE C, LIQUID (Tert-butyl perbenzoate)
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 C, LIQUID (Tert-butyl perbenzoate)
Class: 5.2
UN-No.: 3103
Packing group: II
EmS No.: F-J, S-R
Marine pollutant: Yes

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

Proper Shipping Name: ORGANIC PEROXIDE TYPE C, LIQUID (Tert-butyl perbenzoate)
Class: 5.2
UN-No.: 3103
Packing group: II

14.4 Additional information

No data available.

SECTION 15: REGULATORY INFORMATION

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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# 614-45-9 is listed in the inventory.
DSD (67/548/EEC):	CAS# 614-45-9 is not listed in the Annex I.

Other chemical regulation:

USA - TSCA:	CAS# 614-45-9 is listed in the inventory.
Canada - DSL:	CAS# 614-45-9 is listed in the inventory.
Australia - AICS:	CAS# 614-45-9 is listed in the inventory.
Korea - ECL:	CAS# 614-45-9 is listed in the inventory.
Japan - ENCS:	CAS# 614-45-9 is listed in the inventory.
China - IECSC:	CAS# 614-45-9 is listed in the inventory.
Chinese classification:	This product is classified EXPLOSIVE & ORGANIC PEROXIDE in accordance with "General rule for classification and hazard communication of chemicals "(GB 13690-2009).

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: 15/09/2010
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.
DSD:	Dangerous Substance Directive (67/548/EEC).
TSCA:	Toxic Substances Control Act, The American chemical inventory.
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.

16.3 Key literature references and sources for data

HSDB, Hazardous Substances Data Bank, United States National Library of Medicine.

16.4 Relevant R-phrases and H-statements

R-phrases (code and full text):

R2: Risk of explosion by shock, friction, fire or other sources of ignition.
R7 May cause fire.
R36/38 Irritating to eyes and skin.

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H-statement(s) (code and full text):

H242 Heating may cause a fire.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

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 -----