

## Chemical Safety Data Sheet MSDS / SDS

**tert-Butyl peroxybenzoate**

Revision Date:2024-12-21 Revision Number:1

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : tert-Butyl peroxybenzoate  
CBnumber : CB5134490  
CAS : 614-45-9  
EINECS Number : 210-382-2  
Synonyms : TBPB,tert-Butyl peroxybenzoate

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

**Precautionary statements**

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.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P370+P378 In case of fire: Use ... for extinction.  
P410 Protect from sunlight.  
P411+P235 Store at temperatures not exceeding ... °C/...°F. Keep cool.  
P420 Store away from other materials.

### Hazard statements

H227 Combustible liquid

H242 Heating may cause a fire

H302 Harmful if swallowed

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H332 Harmful if inhaled

H400 Very toxic to aquatic life

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## SECTION 3: Composition/information on ingredients

### Substance

Product name	: tert-Butyl peroxybenzoate
Synonyms	: TBPB,tert-Butyl peroxybenzoate
CAS	: 614-45-9
EC number	: 210-382-2
MF	: C <sub>11</sub> H <sub>14</sub> O <sub>3</sub>
MW	: 194.23

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## SECTION 4: First aid measures

### Description of first aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

## Extinguishing media

### Suitable extinguishing media

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

## Special hazards arising from the substance or mixture

Carbon oxides Combustible.

Has a fire-promoting effect due to release of oxygen. Explosive decomposition possible on heating.

Avoid shock and friction.

Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire. In the event of decomposition: danger of explosion!

Risk of dust explosion.

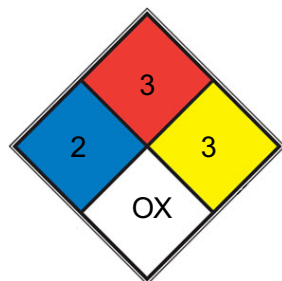
## Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

## Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## NFPA 704



<input checked="" type="checkbox"/>	HEALTH	2	Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. <a href="#">diethyl ether</a> , ammonium phosphate, iodine)
<input checked="" type="checkbox"/>	FIRE	3	Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions . Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, <a href="#">acetone</a> )
<input checked="" type="checkbox"/>	REACT	3	Capable of detonation or explosive decomposition but requires a strong initiating source, must be heated under confinement before initiation, reacts explosively with water, or will detonate if severely shocked (e.g. <a href="#">ammonium nitrate</a> , cesium, hydrogen peroxide)
<input type="checkbox"/>	SPEC. HAZ.	OX	

## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

## **Environmental precautions**

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb? ). Dispose of properly. Clean up affected area.

## **Reference to other sections**

For disposal see section 13.

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# **SECTION 7: Handling and storage**

## **Precautions for safe handling**

### **Advice on safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition.

### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

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

Store at temperatures not exceeding 38 °C/ 100 °F. Keep cool.

### **Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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# **SECTION 8: Exposure controls/personal protection**

## **control parameter**

### **Hazard composition and occupational exposure limits**

Does not contain substances with occupational exposure limits.

### **Exposure controls**

## Personal protective equipment

### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: butyl-rubber

Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested: Butoject? (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,4 mm Break through time: 30 min

Material tested: Camatril? (KCL 730 / Aldrich Z677442, Size M)

### Body Protection

protective clothing

### Respiratory protection

Recommended Filter type: Filter B-(P2)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

### Control of environmental exposure

Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	light yellow clear, liquid
Odour	weakly aromatic
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	Melting point/range: 9 - 11 °C at 1.013 hPa - OECD Test Guideline 102
Initial boiling point and boiling range	75 - 76 °C at 0,3 hPa - lit.
Flash point	93,4 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	< 0,003 hPa at 20 °C

Vapour density	6,71 - (Air = 1.0)
Relative density	No data available
Water solubility	1,18 g/l - soluble
Partition coefficient: n-octanol/water	log Pow: 3 at 25 °C - Bioaccumulation is not expected.
Autoignition temperature	No data available
Decomposition temperature	>60 °C -
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 7,5 mPa.s at 20 °C - OECD Test Guideline 114
Explosive properties	No data available
Oxidizing properties	No data available

### Other safety information

Relative vapor density

6,71 - (Air = 1.0)

## SECTION 10: Stability and reactivity

### Reactivity

Forms explosive mixtures with air on intense heating. Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

### Chemical stability

Sensitivity to light

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Risk of explosion with:

Risk of ignition or formation of inflammable gases or vapours with: Heavy metal salts

Strong acids alkalines Reducing agents

combustible substances Metals

Organic Substances

### Conditions to avoid

Heating may cause a fire. Strong heating.

### Incompatible materials

Lead, rubber, Copper, brass, Polyvinyl chloride, Mild steel

### Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

## Information on toxicological effects

### Acute toxicity

LD50 Oral - Rat - female - > 2.000 mg/kg (OECD Test Guideline 423)

LC50 Inhalation - Rat - male and female - 4 h - 1,01 - 4,9 mg/l (OECD Test Guideline 436)

LD50 Dermal - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 402)

### Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 4 h (OECD Test Guideline 404)

### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h (OECD Test Guideline 405)

### Respiratory or skin sensitization

Sensitisation test: - Mouse Result: positive

(OECD Test Guideline 429)

### Germ cell mutagenicity

Test Type: In vivo micronucleus test Species: Mouse

Application Route: Oral

Result: negative Remarks: (ECHA)

Test Type: in vivo assay Species: Rat

Application Route: Oral

Method: OECD Test Guideline 489 Result: negative

### Carcinogenicity

No data available

### Reproductive toxicity

No data available

### Specific target organ toxicity - single exposure

No data available

### Specific target organ toxicity - repeated exposure

No data available

### Aspiration hazard

No data available

### Toxicity

LD50 orally in Rabbit: > 2000 mg/kg LD50 dermal Rabbit > 2000 mg/kg

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## SECTION 12: Ecological information

### Toxicity

#### Toxicity to fish

semi-static test LC50 - Danio rerio (zebra fish) - 1,6 mg/l - 96 h (OECD Test Guideline 203)

#### Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 11 mg/l - 48 h (OECD Test Guideline 202)

**Toxicity to algae**

static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 0,4 mg/l - 72 h

(OECD Test Guideline 201)

**Toxicity to bacteria**

static test EC50 - activated sludge - 43 mg/l - 0,5 h

(OECD Test Guideline 209)

**Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d

Result: 70 % - Readily biodegradable. (OECD Test Guideline 301D)

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Other adverse effects**

No data available

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## SECTION 13: Disposal considerations

**Waste treatment methods****Product**

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

**UN number**

ADR/RID: 3103 IMDG: 3103 IATA: 3103

**UN proper shipping name**

ADR/RID: ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL PEROXYBENZOATE) IMDG: ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL PEROXYBENZOATE)

IATA: Organic peroxide type C, liquid (tert-Butyl peroxybenzoate) Special Provisions: "Keep away from heat" label required.

**Transport hazard class(es)**

ADR/RID: 5.2 IMDG: 5.2 IATA: 5.2

## Packaging group

ADR/RID: - IMDG: - IATA: -

## Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

## Special precautions for user

No data available

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# SECTION 15: Regulatory information

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

### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Listed. website: <https://www.mem.gov.cn/>

### Measures for Environmental Management of New Chemical Substances

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

EC Inventory:Listed.

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

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# SECTION 16: Other information

## Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

## References

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

**Disclaimer:**

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