SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0
Creation Date: July 15, 2019
Revision Date: July 15, 2019

SECTION 1: Identification

1.1 GHS Product identifier

Product name Bis(α,α-dimethylbenzyl) peroxide

1.2 Other means of identification

Product number -
Other names Bis(1-methyl-1-phenylethyl)peroxide; 2-(2-phenylpropan-2-ylperoxy)propan-2-ylbenzene

1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.
Uses advised against no data available

1.4 Supplier's details

Company Shanghai Yansheng Internet Technology Co., Ltd
Address 513, A3 / F, green space future center, Fengxian District, Shanghai, 201400, China
Telephone +86-4000-6969-66

1.5 Emergency phone number

Emergency phone number +86-4000-6969-66
Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Organic peroxides, Type F
Skin irritation, Category 2
Eye irritation, Category 2
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

2.2 GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning
Hazard statement(s) H242 Heating may cause a fire
H315 Causes skin irritation
H319 Causes serious eye irritation
H411 Toxic to aquatic life with long lasting effects
Precautionary statement(s)

Prevention	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P234 Keep only in original packaging. P235 Keep cool. P240 Ground and bond container and receiving equipment. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P264 Wash ... thoroughly after handling. P273 Avoid release to the environment.
Response	P370+P378 In case of fire: Use ... to extinguish. P302+P352 IF ON SKIN: Wash with plenty of water/... P321 Specific treatment (see ... on this label). P332+P317 If skin irritation occurs: Get medical help. P362+P364 Take off contaminated clothing and wash it before reuse. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P391 Collect spillage.
Storage	P403 Store in a well-ventilated place. P410 Protect from sunlight. P411 Store at temperatures not exceeding …°C/…°F. P420 Store separately.
Disposal	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Bis(α,α-dimethylbenzyl) peroxide	Bis(α,α-dimethylbenzyl) peroxide	80-43-3	201-279-3	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention .

4.2 Most important symptoms/effects, acute and delayed

Excerpt from ERG Guide 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Fire may produce irritating, corrosive and/or toxic gases. Ingestion or contact (skin, eyes) with substance may cause severe injury or burns. Runoff from fire control or dilution water may cause pollution. (ERG, 2016)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

For immediate first aid: Ensure that adequate decontamination has been carried out. If victim is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep victim quiet and maintain normal body temperature. Obtain medical attention. Organic peroxides

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use water in flooding quantities as fog. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, carbon dioxide, or dry chemical. If the material is on fire, or involved in fire, evacuate for a radius of 2500 feet. Dicumyl peroxide, (50% peroxide) or dicumyl peroxide, dry

5.2 Specific hazards arising from the chemical

Excerpt from ERG Guide 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2016)

5.3 Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove all ignition sources. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment. Personal protection: P2 filter respirator for harmful particles.

6.2 Environmental precautions

Remove all ignition sources. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment. Personal protection: P2 filter respirator for harmful particles.

6.3 Methods and materials for containment and cleaning up

Spills should be cleaned up promptly using non-sparking tools and an inert moist diluent such as vermiculite or sand. Sweepings may be placed in open containers or polyethylene bags and the area washed with water and detergent. Organic peroxides

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Fireproof. Separated from combustible substances, reducing agents, strong oxidants, strong acids, bases and heavy metals. Cooled. Keep in the dark. Well closed. Keep under inert gas.Safety measures for organic peroxides are dictated by their individual sensitivity to heat, friction, shock, and contamination. … Peroxides should be stored in their original containers in a ventilated place separated from other materials and protected from flame,

static electricity, sparks, sources of heat (for example steam-pipes, radiators or direct sunlight), shock, or friction. ... The max recommended storage temp is 38 deg C or less. Organic peroxides

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety spectacles or eye protection in combination with breathing protection.

Skin protection

Protective gloves.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	PHYSICAL DESCRIPTION: White powder with a characteristic odor. (NTP, 1992)
Colour	Pale yellow to white granular solid
Odour	no data available
Melting point/freezing point	38-41°C
Boiling point or initial boiling point and boiling range	130°C
Flammability	Combustible.
Lower and upper explosion limit/flammability limit	no data available
Flash point	> 110°C
Auto-ignition temperature	no data available
Decomposition temperature	130°C
pH	no data available
Kinematic viscosity	no data available
Solubility	less than 1 mg/mL at 73° F (NTP, 1992)
Partition coefficient n-octanol/water	log Kow = 5.50
Vapour pressure	15.4 mm Hg (38 °C)
Density and/or relative density	1.56g/mLat 25°C(lit.)

Relative vapour density 9.3 (vs air)
Particle characteristics no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Decomposes rapidly on heating. Decomposes rapidly under the influence of light. This generates fire and explosion hazard. Reacts violently with acids, bases, reducing agents and heavy metals.

10.2 Chemical stability

Very insensitive to shock and friction.

10.3 Possibility of hazardous reactions

Ignites slowly, burns vigorously.The explosive instability of the lower dialkyl peroxides (e.g., dimethyl peroxide) and 1,1-bis-peroxides decreases rapidly with increasing chain length and degree of branching, the di-tert-alkyl derivatives being amongst the most stable class of peroxides. Though many 1,1-bis-peroxides have been reported, few have been purified because of the higher explosion hazards compared with the monofunctional peroxides. It is unlikely that this derivative would be particularly unstable compared to other peroxides in its class [Bretherick 2nd ed., p 44 1979].

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Upon contact with reducing materials, such as organic matter or thiocyanates, an explosion can occur. Organic peroxides

10.6 Hazardous decomposition products

When heated to decomp it emits acrid smoke and irritating fumes.

SECTION 11: Toxicological information

Acute toxicity

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract.

STOT-repeated exposure

no data available

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

Using a standard BOD dilution technique and a sludge inoculum, 0% of the theoretical BOD was observed for dicumyl peroxide over a 4 week incubation period(1).

12.3 Bioaccumulative potential

Experimental BCF values in the range of 137-1,470 and 181-667 were measured in carp exposed to 10 ug/l and 1 ug/l of dicumyl peroxide over an 8 week incubation period(1). According to a classification scheme(2), bioconcentration in aquatic organisms is considered high based upon these BCF values.

12.4 Mobility in soil

The Koc of dicumyl peroxide is estimated as approximately 23,400(SRC), using a measured log Kow of 5.5(1) and a regression-derived equation(2,SRC). According to a recommended classification scheme(3), this estimated Koc value suggests that dicumyl peroxide will have no mobility in soil(SRC).

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN3077 (For reference only, please check.)	IMDG: UN3077 (For reference only, please check.)	IATA: UN3077 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE,	IMDG: ENVIRONMENTALLY HAZARDOUS	IATA: ENVIRONMENTALLY HAZARDOUS

SOLID, N.O.S. (For reference only, please check.)	SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)	SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)	IMDG: 9 (For reference only, please check.)	IATA: 9 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.)	IMDG: III (For reference only, please check.)	IATA: III (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: Yes	IMDG: Yes	IATA: Yes

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Bis(α,α-dimethylbenzyl) peroxide	Bis(α,α-dimethylbenzyl) peroxide	80-43-3	201-279-3
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

Creation Date	July 15, 2019
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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

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Any questions regarding this SDS, Please send your inquiry to sds@xixisys.com

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