Di-tert-butyl peroxide-DTBP Safety Technical Manual

Enterprise Name:Taian Trendsum Chemicals Co.,Ltd.

address:Chemical Industry Park, Ningyang County Economic Development Zone, Tai’an, China.

Emergency Call:0538-5828988

Part 1 Chemical and Enterprise Identification

Chemical name: Di-tert-butyl peroxide-DTBP

Enterprise Name: Taian Trendsum Chemicals Co.,Ltd.

Address：Chemical Industry Park, Ningyang County Economic Development Zone, Tai’an, China.

Postal Code：271400

E-mail Address：1186372837@qq.com

Telephone：0538-5827988

Enterprise emergency hotline：0538-5828988

Recommended uses of chemicals： Widely used as crosslinking agent for unsaturated polyester and silicone rubber, polymerization initiator for monomers, polypropylene modifier, rubber vulcanizing agent, etc

Chemical restricted use：No information available.

Part II Overview of Hazards

Physical and chemical hazards：This product is flammable and explosive. Its vapor can form an explosive mixture with air, which can ignite and explode when exposed to open flames or high heat energy. Contact with reducing agents, accelerators, organic compounds, combustibles, etc. can cause violent reactions and pose a risk of combustion and explosion.

Health hazards： Inhalation of high concentration vapor of this

product may cause mild irritation to the nose, throat, and lungs. Mild irritation to eyes and skin. Oral administration stimulates the digestive tract.

Environmental hazards: It is harmful to the environment and may cause pollution to water bodies, soil, and atmosphere.

GHS hazard category: According to the General Rules for Classification and Hazard Disclosure of Chemicals (GB 13690-2009) and the series of national standards for classification and labeling of chemicals (GB 30000.2~29-2013), as well as the Notice of the General Office of the State Administration of Work Safety on Issuing the Implementation Guidelines for the Catalogue of Hazardous Chemicals (2015 Edition) (Trial) (General Administration of Work Safety Guan San [2015] No. 80), this product belongs to flammable liquid-2 and organic peroxide-E

Label elements:

pictogram:

signal word: dangerous。

Hazard Information: Highly flammable liquid and vapor, heating can cause combustion

precautionary statements:

preventive measure : Sealed operation, providing sufficient local

ventilation. Prevent steam leakage into the workplace air. Operators must undergo specialized training and strictly adhere to operating procedures. It is recommended that operators wear self-priming filter type gas masks (full face masks), one-piece adhesive tape gas masks, and rubber gloves. Keep away from sources of fire and heat, and smoking is strictly prohibited in the workplace. Use explosion-proof ventilation systems and equipment. Welding, cutting, and other operations cannot be carried out before removing liquids and vapors. Avoid generating smoke. Avoid contact with reducing agents and alkalis. Equip with corresponding types and quantities of fire-fighting equipment and emergency response equipment for leaks. Empty containers may contain residual harmful substances.

Incident Response：Firefighters must wear filter type gas masks (full face shields) or isolated respirators, wear full body fire and gas protective clothing, and extinguish fires in the upwind direction. Try to move the container from the fire scene to an open area as much as possible. Spray water to keep the fire container cool until the fire is extinguished. If the container in the fire has changed color or produced sound from the safety relief device, it must be evacuated immediately. Extinguishing agent: fog water, foam, dry powder, carbon dioxide, sand. Not suitable for using water. Skin contact: Remove contaminated clothing and thoroughly rinse the skin with soap and water for at least 15 minutes. Seek medical attention. Eye contact: Lift the eyelids and rinse with flowing water or saline solution for at least 15 minutes. Seek medical

attention. Inhalation: Quickly leave the scene and move to a place with fresh air. Keep the respiratory tract unobstructed. If breathing is difficult, administer oxygen. If breathing stops, immediately perform artificial respiration. Seek medical attention. Ingestion: Rinse mouth or drink plenty of warm water, do not induce vomiting. Seek medical attention immediately. Contaminated clothing should be cleaned before use.

safe storage： Store in a cool and ventilated warehouse. Stay away from sources of fire and heat. Protect from direct sunlight. The storage temperature should not exceed 30 ℃. Keep the container sealed. It should be stored separately from reducing agents and alkalis, and avoid mixing storage. Adopt explosion-proof lighting and ventilation facilities. Prohibit the use of mechanical equipment and tools that are prone to generating sparks. The storage area should be equipped with emergency response equipment for leaks and suitable containment materials. Vibration, impact, and friction are prohibited.

Waste disposal： Suggest using controlled incineration or safe burial methods for disposal.

Part Three Ingredients/Composition Information

substance √ mixture □

Dangerous components	**Concentration,%**	**CAS No.**
Di-tert-butyl peroxide	＞99%	110-05-4

Part Four Emergency Measures

Skin contact: Remove contaminated clothing and thoroughly rinse the skin with soap and water for at least 15 minutes. Seek medical attention.

Eye contact: Lift the eyelids and rinse with flowing water or saline solution for at least 15 minutes. Seek medical attention.

Inhalation: Quickly evacuate the scene to a place with fresh air. Keep the respiratory tract unobstructed. If breathing is difficult, administer oxygen. If breathing stops, immediately perform artificial respiration. Seek medical attention.

Eating in: Rinse your mouth or drink plenty of warm water, do not induce vomiting. Seek medical attention immediately.

Acute and delayed effects, main symptoms, and impacts: Inhalation of high concentration vapor of this product may cause mild irritation to the nose, throat, and lungs. Mild irritation to eyes and skin. Oral administration stimulates the digestive tract.

Advice on protecting rescuers: When rescuing, one should wear a filter type gas mask (full face mask) or isolated respirator, wear full body fire and gas protective clothing, and extinguish the fire in the upwind direction.

Doctor's Special Reminder: If the above-mentioned hazards occur, the rescuer should provide first aid to the patient according to the above emergency measures, seek medical attention in a timely manner, and follow medical advice. Timely medical care and

specialized treatment.

PART V Fire protection measures

Fire extinguishing methods and agents: Firefighters must wear filter type gas masks (full face shields) or isolated respirators, wear full body fire and gas protective clothing, and extinguish fires in the upwind direction. Try to move the container from the fire scene to an open area as much as possible. Spray water to keep the fire container cool until the fire is extinguished. If the container in the fire has changed color or produced sound from the safety relief device, it must be evacuated immediately. Extinguishing agent: fog water, foam, dry powder, carbon dioxide, sand. Not suitable for using water.

Special hazardous characteristics: This product is flammable and explosive. Its vapor can form an explosive mixture with air, which can ignite and explode when exposed to open flames or high heat energy. Contact with reducing agents, accelerators, organic compounds, combustibles, etc. can cause violent reactions and pose a risk of combustion and explosion.

special extinguishing agent: No information available.

Protective equipment for protecting personnel: Firefighters must wear filter type gas masks (full face shields) or isolated respirators, wear full body fire and gas protective clothing, and extinguish fires in the upwind direction.

Part VI ACCIDENTAL RELEASE MEASURES

Protective measures, equipment, and emergency response procedures

for operators: Quickly evacuate personnel from the contaminated area to a safe zone, isolate them, and strictly restrict their entry and exit. Cut off the fire source. It is recommended that emergency personnel wear self-contained breathing apparatus and anti-static work clothes.

Environmental Protection Measures: Do not come into direct contact with the leaked material. Cut off the leakage source as much as possible. Prevent flow into restricted spaces such as sewers and drainage ditches

Storage, removal methods, and disposal materials for leaked chemicals: Minor leakage: Absorb with sand, vermiculite, or other inert materials. Massive leakage: Construct embankments or dig pits to contain it. Transfer to a tanker or dedicated collector using a pump, and recycle or transport to a waste disposal site for disposal.

Preventive measures to prevent secondary hazards from occurring: To avoid secondary hazards such as explosions in the leakage area, the fire source should be cut off and all non explosion proof electrical operations, including mobile phones, vehicles, and iron metal appliances, should be stopped. Damaged containers should be properly handled, repaired, inspected, and reused.

Part VII HANDLING AND STORAGE

Precautions for safe operation and disposal: Sealed operation, providing sufficient local ventilation. Prevent steam leakage into the workplace air. Operators must undergo specialized training and strictly adhere to operating procedures. It is recommended that

operators wear self-priming filter type gas masks (full face masks), one-piece adhesive tape gas masks, and rubber gloves. Keep away from sources of fire and heat, and smoking is strictly prohibited in the workplace. Use explosion-proof ventilation systems and equipment. Welding, cutting, and other operations cannot be carried out before removing liquids and vapors. Avoid generating smoke. Avoid contact with reducing agents and alkalis. Equip with corresponding types and quantities of fire-fighting equipment and emergency response equipment for leaks. Empty containers may contain residual harmful substances.

Storage precautions: Store in a cool and ventilated warehouse. Stay away from sources of fire and heat. Protect from direct sunlight. The storage temperature should not exceed 30 ℃. Keep the container sealed. It should be stored separately from reducing agents and alkalis, and avoid mixing storage. Adopt explosion-proof lighting and ventilation facilities. Prohibit the use of mechanical equipment and tools that are prone to generating sparks. The storage area should be equipped with emergency response equipment for leaks and suitable containment materials. Vibration, impact, and friction are prohibited.

Part VIII Contact control and individual protection

Occupational exposure limit: No information available。

Biological limit value: No information available.

Monitoring methods: No information available.

Engineering Control Methods: The production process is sealed and fully ventilated. Provide good natural ventilation conditions. Provide safety shower and eye wash equipment。

respiratory system protection: When the concentration in the air exceeds the standard, a self-priming filter type gas mask (full face mask) must be worn. During emergency rescue or evacuation, air respirators should be worn.

EYE PROTECTION: Respiratory protection has been implemented.

Body Protection: Wear a jumpsuit with adhesive tape for gas protection.

Hand protection: Wear rubber gloves.

Other protections: Smoking, eating, and drinking are prohibited at the work site. Alcoholic beverages should be avoided before work. After work, pre employment and regular medical examinations should be conducted.

Part IX physicochemical properties

Appearance and Characteristics: smell: not have。 Water white transparent liquid.

pH value : No information available.

Melting point/freezing point(℃): -40

Boiling point, initial boiling point or boiling range (℃) : 111

flash point (℃) : 18.3℃。

Lower Explosion Limited[%（V/V）]: No information available.	upper explosive limit[%（V/V）]: No information available.
Vapor pressure（kPa）: (20℃) 2.6	Relative vapor density（air＝1）: 5
relative density（water＝1）: 0.8	n-Octanol/water partition coefficient: 3.2
auto-ignition temperature（℃）: No information available.	decomposition temperature（℃）: No information available.
critical temperature（℃）: No information available.	critical pressure（MPa）: No information available.
Odor threshold: No information available.	kinematic viscosity（mm^2/s）: No information available.

Solubility: Insoluble in water, soluble in ketones and hydrocarbons.

Part 10 Stability and Reactivity

stability: stabilize

Dangerous reactions that may occur under specific conditions: No information available.

Conditions to avoid: Open flames, high heat, etc

Incompatible substances: Strong reducing agent, strong base.

Dangerous decomposition products: Carbon monoxide, carbon dioxide.

Part 11 Toxicological Information

acute toxicity: No information available.

Skin irritation or corrosion: No information available.

Eye irritation or corrosion: No information available.

RESPIRATORY OR SKIN SENSITIZATION: No information available.

Mutability of germ cells: No information available.

carcinogenicity: No information available.

reproductive toxicity: No information available.

Specific target organ systemic toxicity - single exposure: No information available.

Specific target organ systemic toxicity - repeated exposure: No information available.

Inhalation hazard: No information available.

Part 12 Ecological Information

ecotoxicity: No information available.

Biological persistence and degradability: No information available.

Potential bioaccumulation: No information available.

Mobility in soil: No information available.

Part 13 Disposal of Waste

Disposal methods for waste:

- Residual waste: Suggest using incineration method for disposal.

- Contaminated containers and packaging: Suggest contacting the manufacturer to return the empty container to them.

Disposal precautions: It is recommended that waste disposal personnel wear protective equipment and evacuate unrelated

personnel. Other chemicals generated during waste disposal should be properly disposed of. Refer to relevant national and local regulations before disposal.

Part 14 Transportation Information

United Nations dangerous goods number (UN number): 3107

UN Shipping Name: Liquid E-type organic peroxide.

United Nations Hazard Classification: Main hazard category 5.2.

packing mark: Organic peroxides.

Packing group: class ii

Packaging method: Screw mouth glass bottles, iron cap pressed mouth glass bottles, plastic bottles, or ordinary wooden boxes outside metal drums (cans); Threaded glass bottles, plastic bottles, or tin plated steel drums (cans) are filled with bottom plate flower boxes, fiberboard boxes, or plywood boxes.

Marine pollutants (yes/no): no

Transportation precautions: During railway transportation, the dangerous goods loading table in the "Dangerous Goods Transport Rules" of the Ministry of Railways should be strictly followed for loading. When transported separately, ensure that the container does not leak, collapse, fall, or damage during transportation. Transport vehicles should be equipped with corresponding types and quantities of fire-fighting equipment during transportation. It is

strictly prohibited to transport and mix with acids, flammable materials, organic substances, reducing agents, self igniting materials, and flammable materials when wet. The speed of the vehicle should be controlled to avoid bumps and vibrations. Transport in the morning and evening during summer to prevent exposure to sunlight. During road transportation, it is necessary to follow the prescribed route and it is prohibited to stay in residential areas and densely populated areas. Transport vehicles should be thoroughly cleaned and washed before and after loading and unloading, and it is strictly prohibited to mix impurities such as organic matter and flammable materials.

Part 15 Regulatory Information

Regulatory information：《Work Safety Law of the People's Republic of China》

Occupational Disease Prevention and Control Law of the People's Republic of China

Regulations on the Safety Management of Hazardous Chemicals

Regulations on the Safe Use of Chemicals in the Workplace

Management Measures for Registration of Hazardous Chemicals

Content and Project Sequence of Chemical Safety Technical Data Sheets (GB/T 16483-2008)

Guidelines for Writing Chemical Safety Technical Data Sheets (GBT

17519-2013)

General Technical Conditions for Transport Packaging of Dangerous Goods (GB 12463-2009)

Dangerous Goods Packaging Markings (GB 190-2009)

Classification Method for Transport Packaging of Dangerous Goods (GB/T 15098-2008)

Classification and Numbering of Dangerous Goods (GB 6944-2012)

Occupational Exposure Limits for Hazardous Factors in the Workplace - Chemical Hazardous Factors (GBZ 2.1-2019)

Series of Standards for Classification and Labeling of Chemicals (GB 30000.2-29-2013)

Catalogue of Hazardous Chemicals (2015 Edition)

573 items in the "Classification Information Table for Hazardous Chemicals"

List of Dangerous Goods (GB 12268-2012), item 3107, etc.

Part 16 Other Information

Date：July 15th, 2022.

Filling department：Taian Trendsum Chemicals Co.,Ltd.

Compilation instructions：This SDS is prepared in accordance with the national standards "Content and Order of Items in Chemical Safety Technical Data Sheets" (GB/T 16483-2008) and "Guidelines for Writing Chemical Safety Technical Data Sheets" (GB/T 17519-2013);

The GHS classification of chemicals in this SDS is based on the national standards for chemical classification and labeling (GB 30000.2~29-2013) and the Notice of the General Office of the State Administration of Work Safety on Issuing the Implementation Guidelines for the Catalogue of Hazardous Chemicals (2015 Edition) (Trial) (General Administration of Work Safety Guan San [2015] No. 80).