2,5-Dimethyl-2,5-di(tert-butylperoxy) hexane（DHBP）

Safety Technical Manual

Enterprise Name：Taian Trendsum Chemicals Co.,Ltd.

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

Emergency telephone：0538-5828988

Part 1 Chemical and Enterprise Identification

Chemical name： 2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane

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： Used as a vulcanizing agent for silicone rubber, polyurethane rubber, ethylene propylene rubber, and other rubbers; It can also be used as a crosslinking agent for polyethylene and a hardening agent for unsaturated polyester.

Chemical restricted use： No information available.

Part II Overview of Hazards

Physical and chemical hazards： This product is flammable and irritating. Its vapor can form an explosive mixture with air, which can ignite and explode when exposed to open flames or high heat energy. Can react with oxidants. Can react strongly with reducing agents. If exposed to high heat, the pressure inside the container increases, posing a risk of cracking and explosion.

Health hazards： It has a stimulating effect on the eyes. Inhalation can cause damage to the central nervous system, leading to movement

disorders, balance disorders, etc.

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-4 and organic peroxide-C.

Label elements:

pictogram:

signal word: dangerous

Hazard Information: Flammable liquid, heating can cause combustion.

Preventive instructions:

preventive measure: Sealed operation, local exhaust. 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 (half face masks), chemical safety goggles, work clothes that prevent toxic substances from penetrating, 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. Keep away from flammable and combustible materials. Avoid generating smoke. Avoid contact with reducing agents, acids, bases, sulfur, and phosphorus. 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: If a fire occurs, extinguish it 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: Products are usually stored after dilution. 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, acids, bases, flammable materials, sulfur, and phosphorus, and should not be stored together. Not suitable for long-term storage. Adopt explosion-proof lighting and ventilation facilities. Prohibit the use of mechanical equipment and tools that are prone to generating sparks.

Waste disposal: Suggest using incineration method for disposal.

Part Three Ingredients/Composition Information

substance √ mixture □

Dangerous components	Concentration,%	CAS No.

2,5-Dimethyl-2,5-di(tert-butylperoxy) hexane（DHBP）	≥92%	78-63-7

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: It has a stimulating effect on the eyes. Inhalation can cause damage to the central nervous system, leading to movement disorders, balance disorders, etc.

Advice on protecting rescuers: Self contained breathing apparatus and anti-static work clothes should be worn during rescue operations. Do not come into direct contact with the leaked material. Cut off the leakage source as much as possible.

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 gas masks and full body firefighting suits, 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 irritating. Its vapor can form an explosive mixture with air, which can ignite and explode when exposed to open flames or high heat energy. Can react with oxidants. Can react strongly with reducing agents. If exposed to high heat, the pressure inside the container increases, posing a risk of cracking and explosion.

special extinguishing agent: No information available.

Protective equipment for protecting personnel: Firefighters must wear gas masks and full body firefighting suits, and extinguish fires in the upwind direction.

Part 6 Emergency Response to Leakage

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. Do not come into direct contact with the leaked material.

Environmental Protection Measures: Cut off the leakage source as much as possible. Prevent the flow into restricted spaces such as sewers and drainage ditches.

Storage, removal methods, and disposal materials for leaked chemicals: Minor leakage: Absorb with sand. 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 7 Operation, Disposal and Storage

Precautions for safe operation and disposal: Sealed operation, local exhaust. 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 (half face masks), chemical safety goggles, work clothes that prevent toxic substances from penetrating, 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. Keep away from flammable and combustible materials. Avoid generating smoke. Avoid contact with reducing agents, acids, bases, sulfur, and phosphorus. 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: Products are usually stored after dilution. 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, acids, bases, flammable materials, sulfur, and phosphorus, and should not be stored together. Not suitable for long-term storage. Adopt explosion-proof lighting and ventilation facilities. Prohibit the use of mechanical equipment and tools that are prone to generating sparks.

Part 8 Contact Control and Personal 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 (half face mask) must be worn. During emergency rescue or evacuation, air respirators should be worn.

EYE PROTECTION: Wear chemical safety goggles.

Body Protection: Wear work clothes that prevent toxic substances from penetrating.

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 9 Physical and Chemical Characteristics

Appearance and Characteristics: Light yellow oily liquid

smell: There is a special odor.

pH value: No information available.

Melting point/freezing point(℃): 8。

Boiling point, initial boiling point or boiling range (℃): 50-52。

flash point (℃): 85℃。

Lower Explosion Limited[% (V/V)]: No information available.

upper explosive limit[% (V/V)]: No information available.

Vapor pressure (kPa): No information available.

Relative vapor density (air=1): No information available.

relative density (water=1): 0.8650。

n-Octanol/water partition coefficient: No information available.

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 kinematic viscosity (mm^2/s): No available. information available.

Solubility: Insoluble in water, soluble in most organic solvents.

Part 10 Stability and Reactivity

stability: stable.

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

Conditions to avoid: Open flames, high heat, etc.

Incompatible substances: Strong reducing agents, acids, bases, flammable or combustible materials, sulfur.

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): 3103

UN Shipping Name: Liquid C-type organic peroxide.

United Nations Hazard Classification: Main hazard class 5.2。

packing mark: Organic peroxides.

Packing group: class ii

Packaging method: Sealed packaging.

Marine pollutants (yes/no): no

Transportation precautions: Before transportation, the packaging container should be checked for completeness and sealing. During transportation, it is necessary to ensure that the container does not leak, collapse, fall, or damage. Transport vehicles should be equipped with corresponding types and quantities of fire-fighting equipment and emergency response equipment for leaks during transportation. It is best to transport in the morning and evening during summer. The tank truck used for transportation should have a grounding chain, and a perforated partition can be installed inside the tank to reduce static electricity generated by vibration. It is strictly prohibited to mix and transport with reducing agents, acids, bases, flammable or combustible materials, reactive non-metallic substances, edible chemicals, etc. During transportation, it should be protected from direct sunlight, rain, and high temperatures. When stopping midway, one should stay away from sources of fire, heat, and high temperature areas. The exhaust pipe of the vehicle carrying the item must be equipped with a flame retardant device, and the use of mechanical equipment and tools that

are prone to generating sparks for loading and unloading is prohibited. Transport vehicles and vessels must be thoroughly cleaned and disinfected, otherwise other items cannot be transported. When shipping, the loading location should be far away from the bedroom and kitchen, and isolated from the engine room, power supply, fire source, and other parts. During road transportation, it is necessary to follow the prescribed route.

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)

377 items in the "Classification Information Table of Hazardous Chemicals"

List of Dangerous Goods (GB 12268-2012), item 3103, 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).