


SAFETY DATA SHEET (SDS)

1. Identification of the substance/mixture and of the company/undertaking

Product Name: Manto Mantherm K3
Other names: Hydrogenated biphenyl thermal oil
<p>Manufacture:</p> <p>Jiangsu Manto Chemistry</p> <p>Room B, Floor 11, Building No.1, Beitanghe Road No.8, Hengsheng Science & Technology Park, Tianning District, Chanzhou City,</p> <p>Jiangsu Province, China</p> <p>Tel: +0086-0519-85760560</p>

2. Hazards identification

Overview of Emergency Situations	
Appearance and characteristics	Liquid, oily odor
Colour	Colourless
Odor	Mild
Swallowing and entering the respiratory tract may be fatal. Causing slight skin irritation. Highly toxic to aquatic organisms and with long-term and sustained effects	
GHS hazard category	
Skin corrosion/irritation	Category 3
Inhalation hazard	Category 1
Acute (short-term) aquatic hazards	Category 1
Long term aquatic hazards	Category 1
GHS label elements	
Pictogram	
Signal word	Dangerous

Hazard statement	H304 Swallowing and entering the respiratory tract may be fatal. H316 causes mild skin irritation. H410 is highly toxic to aquatic organisms and has long-lasting effects.
Precautionary statements	Preventive measures: P273 should be avoided from being released into the environment. Accident response: If P301+P310 is accidentally swallowed, immediately call the emergency center/doctor. P331 should not induce vomiting. P332+P313 If skin irritation occurs, seek medical attention. P391 Collect spillage. Storage: P405 storage area must be locked. Disposal: P501 sends the contents/containers to an approved waste treatment plant for disposal.
Physical and chemical hazards	There is no need to classify based on existing information.
Health hazards	Causing mild skin irritation. Swallowing and entering the respiratory tract may be fatal.
Environmental hazards	Highly toxic to aquatic organisms. It is highly toxic to aquatic organisms and has long-lasting effects.
Other hazards not included in GHS	Repeated exposure may cause dryness and cracking of the skin.

3. Composition/information on ingredients

Chemical name	CAS Number	Concentration or concentration range (wt%)
Cyclohexylbenzene	827-52-1	>90
Bicyclohexane	92-51-3	<10

The concentration of additives that are currently known to be applicable by the supplier and classified as harmful to health or the environment, and therefore need to be reported in this section, has not appeared.

4. First aid measures

Inhale	Move the person to a place with fresh air and maintain a comfortable breathing position. If there are symptoms, seek medical attention. If breathing is difficult, administer oxygen.
Skin contact	Rinse with soap and plenty of water. If there are symptoms, seek medical attention. Stained clothes can only be reused after cleaning.
Eye contact	If accidentally touched, immediately rinse the eyes with plenty of water for at least 15

	minutes.
	If there are symptoms, seek medical attention.
Ingestion	If accidentally swallowed: Call the emergency center/doctor immediately.
	Do not induce vomiting.
	Rinse mouth with water.
The most important symptoms and health impacts	Do not feed anything to an unconscious person.
	Inhalation hazard
	Causing mild skin irritation.
	Long term skin contact can cause skin defatting and dermatitis.
	This product in a molten state can cause serious burns.
	Causing mild skin irritation.
	Swallowing and entering the respiratory tract may be fatal.
Special reminder for doctors	If accidentally swallowed: Call the emergency center/doctor immediately.
	Do not induce vomiting.
	Symptomatic treatment.

5. Fire-fighting measures

Fire extinguishing methods and extinguishing agents	Water spray, carbon dioxide (CO2), chemical dry powder, foam
Inappropriate fire extinguishing agent	Do not use strong water flow as it may spread the fire.
Harmful combustion products	Harmful decomposition products generated by incomplete combustion: carbon oxides
Special firefighting methods	Cool completely closed containers with water spray. Do not allow firefighting water to flow into sewers and rivers.
Special protective equipment for firefighters	Wear certified positive pressure self-contained breathing apparatus and standard firefighting equipment.

6. Accidental release measures

Personnel protection measures, protective equipment, and emergency response procedures	Eliminate all sources of ignition. Ventilate the area. Avoid breathing dust/smoke/gas/smoke/vapor/spray. Avoid contact with skin and eyes.
--	---

	<p>This material can cause slipping.</p> <p>Wear appropriate personal protective equipment.</p> <p>Immediately clean up any spillage and safely dispose of waste.</p>
Environmental Protection Measures	<p>Avoid releasing into the environment.</p> <p>Collect spills.</p>
Methods for containment and removal of leaked chemicals, as well as the disposal materials used	<p>Seal the overflow and absorb it with non combustible materials (such as sand, soil, diatomaceous earth, vermiculite), then put it into a container and dispose of it according to local/national regulations (see Part 13).</p>
Preventive measures to prevent secondary disasters from occurring	<p>If it is not possible to contain a serious spill, the local authorities should be notified.</p>

7. Handling and storage

Operational disposal	
Precautions for safe disposal	<p>Do not breathe vapor or spray.</p> <p>Only operate the product in a closed system or provide sufficient exhaust at the mechanical equipment.</p> <p>If ventilation is poor, appropriate respirators must be worn.</p> <p>Stay away from flames and sparks.</p> <p>Wear appropriate personal protective equipment.</p> <p>Avoid contact with skin, eyes, and clothing.</p> <p>Thoroughly clean after operation.</p> <p>Stained clothes can only be reused after cleaning.</p> <p>Drain the internal materials before stopping or repairing the equipment.</p> <p>Operate in accordance with good industrial hygiene and safety regulations.</p>
Prevent contact with prohibited substances	<p>Strong oxidant</p>
Storage	
Safe storage conditions	<p>The storage area must be locked.</p> <p>Keep the container sealed and store it in a dry and well ventilated place. Store in a cool place and keep away from oxidants.</p>

8. Exposure controls/personal protection

Hazard composition and occupational exposure limits	Substances that do not contain occupational exposure limits.
---	--

Appropriate engineering control	Good ventilation (usually 10 air changes per hour) should be used. The ventilation rate should meet the conditions. If applicable, use the casing, local exhaust ventilation or other engineering controls during use to maintain exposure limits in the air below recommended levels. If the exposure limit has not been established, the level in the air should be maintained at an acceptable level.
Personal protective equipment	
Respiratory system protection	<p>If the risk assessment results indicate that it is necessary, please use respiratory equipment with a suitable particulate filter that meets the standards.</p> <p>The selection, use, and maintenance of respirators must comply with applicable regulatory requirements.</p> <p>If the engineering control is not lower than the recommended exposure limit for maintaining concentration in the air (if applicable) or to an acceptable level (in countries where exposure limits have not yet been established), wear a licensed respirator.</p>
Eye and face protection	Wear safety goggles (or goggles) with side shields.
Skin and body protection	Wear appropriate protective clothing.
Hand protection	Wear appropriate gloves. When handling hot substances, use heat-resistant gloves.
Other protective measures	Ensure that eye wash stations and safety showers are located near the workplace.

9. Physical and chemical properties

Appearance and characteristics	Liquid, oily odor
Colour	Colourless
Odor	Mild
Melting point/freezing point	3-5°C
Boiling point/boiling range	243°C
Flash point (O.C.)	104°C
Flammability (solid, gas)	Not applicable

Vapor pressure	0.03 hPa @20°C
	0.16 hPa @40°C
Density	933 kg/m ³ @20°C
Water-soluble	<0.023 g/l @20°C
Kinematic viscosity	2.04cSt @40°C
Explosion characteristics	Non-explosive
Oxidability	Unclassified

10. Stability and reactivity

Reactivity	No reasonable prediction
Stability	Stable under normal conditions
Hazardous reactions	No reports have been found
Conditions to avoid	Heating in the air. Stay away from flames and sparks.
Prohibited substances	Strong oxidant
Dangerous decomposition products	It releases spicy smoke and fumes when heated to decomposition temperature.

11. Toxicological informatio

Acute toxicity	No need for classification based on existing information
Product information	
Acute oral toxicity	LD ₅₀ , oral (rats, males and females):>2000 mg/kg
Acute Inhalation Toxicity	No data available
Acute dermal toxicity	LD ₅₀ , skin (rabbits, males and females):>2000 mg/kg
Acute toxicity (other exposure routes)	(Rats, male and female):>3684 mg/kg Route of infection: Intraperitoneal injection
Inhale	No reports have been found
Skin contact	Causing mild skin irritation
Eye contact	No reports have been found
Ingestion	Swallowing and entering the respiratory tract may be fatal.

12. Ecological information

Ecotoxicity	
-------------	--

Toxicity to fish	LC50 (Oryzias latipes): 1.2 mg/l LC50 (Pimephales promelas): >10 mg/l
Toxicity to water fleas and other aquatic invertebrates	EC50 (Daphnia magna): 0.37 mg/l EC50 (Daphnia magna): 0.703 mg/l
Toxicity to algae/aquatic plants	ErC50 (Pseudokirchneriella subcapita): 0.69 mg/l NOEC (Pseudokirchneriella subcapita): 0.11 mg/l
M-factor (acute aquatic hazard)	1
Toxicity to fish (chronic toxicity)	NOEC: >5 mg/l Exposure time: 124 hours
M-factor (long-term aquatic hazards)	1
Toxicity to microorganisms	EC50 (bacteria): 1000 mg/l EC10 (bacteria): 170 mg/l
Durability and degradability	
Biodegradability	Has inherent biodegradability
Biological oxygen demand (BOD)	< 164 mg/g
Chemical Oxygen Demand (COD)	No data available
Bioaccumulation potential	
Bioaccumulation	Bioaccumulation Factor (BCF): 2301
Mobility in soil	
Distribution in segmented spaces of various environments	Adsorption/soil Koc: 5129, log Koc: 3.71
Other harmful environmental effects	No data available

13. Disposal consideration

Disposal method	<p>Efforts should be made to avoid or reduce the generation of waste as much as possible.</p> <p>Significant amounts of residual product waste should not be disposed of through sewage channels, but should be treated in a suitable sewage treatment plant.</p> <p>Dispose of residues and non recycled products through licensed waste disposal contractors.</p> <p>The disposal of products, solutions, and their by-products should comply with the requirements of environmental protection, waste disposal regulations, and relevant local regulations.</p> <p>Packaging waste should be recycled. Only consider incineration or landfilling when recycling is not</p>
-----------------	---

feasible.

Use safe methods to handle this product and its container.

Empty containers or liners may retain some residual products.

Avoid the spread and flow of spillage, and prevent spillage from coming into contact with soil, rivers, sewers, and sewage pipelines.

14. Transport information

International regulations

Air freight (IATA-DGR)

UN/ID Number	UN 3082
UN Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Cyclohexylbenzene)
Category	9
Packing group	III
Label	Miscellaneous
Packaging Instructions (Cargo Aircraft)	964
Packaging instructions (passenger aircraft)	964
Notes	Shipping with packaging sizes less than 5 liters (liquid) or 5 kilograms (solid) may result in uncontrolled classification.

Ocean freight (IMDG Code)

UN Number	UN 3082
UN Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cyclohexylbenzene)
Category	9
Packing group	III
Label	9
EmS table number	F-A, S-F
Marine pollutants (yes/no)	Yes
Notes	Shipping with packaging sizes less than 5 liters (liquid) or 5 kilograms (solid) may result in uncontrolled classification.

According to Annex II of MARPOL73/78 Convention and IBC rules: not applicable to supplied products.

The transportation classification provided in this article is for reference only and is purely based on the properties of unpackaged

materials described in this safety technical manual.

The classification of transportation may vary depending on the mode of transportation, packaging size, and regional or national regulations.

15. Regulatory Information

Applicable regulations	code of occupational disease prevention of prc
The listed information of product ingredients in the following directory	
TCSI	Exists in or conforms to the existing directory
TSCA	All active substances listed in TSCA inventory
KECI	Exists in or conforms to the existing directory
IECSC	Exists in or conforms to the existing directory

16. Other Information

Abbreviated keywords	<p>ACGIH stands for Association of Governmental Industrial Hygienists in the United States, an organization that issues exposure standards for toxic products.</p> <p>CAS Number=Chemical Extract Service Registration Number</p> <p>GHS=Global Harmonized System</p> <p>IATA stands for International Air Transport Association, an organization that issues regulations related to air freight of goods.</p> <p>IMDG stands for International Maritime Organization Rules, Rules for the Transport of Goods by Sea.</p> <p>ICAO stands for International Civil Aviation Organization.</p> <p>SDS=Safety Technical Manual</p> <p>STEL=Short term exposure limit</p> <p>TWA=Time Weighted Average</p> <p>UN Number=United Nations number, a four digit number designated by the United Nations Committee of Experts on the Transport of Dangerous Goods.</p>
----------------------	--

Reader's note

All reasonable and feasible measures have been taken to ensure that this data sheet and the health, safety, and environmental information contained therein remain accurate as of the following dates. However, no express or implied warranty or assumption is made regarding the accuracy and completeness of the data and information in this data sheet.

The provided data and recommendations are only applicable for the specified use of this product. This product should not be used for any other purpose without consent, except for the specified use.

It is the responsibility of the user to evaluate and safely use this product and comply with all applicable laws and regulations. We will not be responsible for any damage or injury caused by the use of this substance for non specified purposes, failure to follow recommended recommendations, or any inherent hazards of this substance.

If the purchaser of this product intends to provide it for third-party use, it is their responsibility to take all necessary measures to ensure that any person handling or using this product also obtains the information in this data sheet.

If you have any questions, please contact info@manto.com consulting service

1	2024/11/20	New version released (A/0)	Jevin Ryu
NO.	Date	Correction items	Reviewer