

SAFETY DATA SHEET (SDS)

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

Product Name: MANTO MANFROST SF-2
Other Name: Volatile Silicone Oil
Suggested applications and limited use: Heat transfer medium.
Manufacture: Jiangsu Manto Chemistry Room B, Floor 11, Building No. 1, Beitanghe Road No.8, Hengsheng Science & Technology Park, Tianning District, Chanzhou City, Jiangsu Province, China Tel: +0086-0519-85760560

2. Hazards identification

Summary of hazard in an emergency situation

Does not mix with water.
Floats on water.
Combustible.
Irritating to eyes.
Irritating to respiratory system.
Irritating to skin.
Cumulative effects may result following exposure*.

Hazard classification

Eye Irritation Category 2A, Flammable Liquid Category 4, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Skin Corrosion/Irritation Category 2

Label elements:

Hazard pictogram(s)



Signal word: Warning

Hazard statement(s)

H319 Causes serious eye irritation.
H227 Combustible liquid.
H335 May cause respiratory irritation.
H315 Causes skin irritation.

Precautionary statement(s) Prevention

P210 Keep away from hot surfaces and open flames. No smoking. P235 Keep cool.
P271 Use only outdoors or in a well-ventilated area.
P261 Avoid breathing mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash all exposed external body areas thoroughly after handling.

Precautionary statement(s) Response

P321 Specific treatment (see advice on this label).

P370+P378 In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER/doctor/physician/first aider/ifyou feel unwell.

P337+P313 If eye irritation persists: Get medical advice/attention.

P302+P352 IF ON SKIN: Wash with plenty of water and soap.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and washit before reuse.

Precautionary statement(s) Storage

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

Physical and Chemical Hazard

Liquid.

Does not mix with water.

Floats on water.

Combustible.

Toxic smoke/fumes in a fire.

Health hazards

Inhaled

Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation.

The material has NOT been classified by EC Directives or other classification systems as 'harmful by inhalation'. This is because of the lack of corroborating animal or human evidence. In the absence of such evidence, care should be taken nevertheless to ensure exposure is kept to a minimum and that suitable control measures be used, in an occupational setting to control vapours, fumes and aerosols.

Inhalation hazard is increased at higher temperatures.

Skin Contact

Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.

The material may accentuate any pre-existing dermatitis condition. Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.

Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Eye Contact

Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.

Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.

Ingestion

Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result. Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis). The material has NOT been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

Chronic

Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

3. Composition/information on ingredients

The Chinese and English name of hazardous substance	Concentration/Concentration range (%)
DIMETHICONE	99-100%

4. First aid measures

Inhalation

If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested.

Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.

Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained.

Perform CPR if necessary.

Transport to hospital, or doctor, without delay.

Skin Contact

If skin contact occurs:

Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available).

Seek medical attention in event of irritation.

Eye Contact

If this product comes in contact with the eyes: Wash out immediately with fresh running water.

Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

Seek medical attention without delay; if pain persists or recurs seek medical attention.

Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Ingestion

First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

5. Fire-fighting measures

Extinguishing media

Foam.

Dry chemical powder.

BCF (where regulations permit). Carbon dioxide.

Water spray or fog - Large fires only.

Special hazards

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Fire protection measures

Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus.

Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area.

Avoid spraying water onto liquid pools.

DO NOT approach containers suspected to be hot.

Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.

Fire/explosion hazard

Combustible.

Slight fire hazard when exposed to heat or flame.

Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO).

May emit acrid smoke.

Mists containing combustible materials may be explosive. Combustion products include: carbon dioxide (CO₂) sulfur oxides (SO_x) silicon dioxide (SiO₂)

other pyrolysis products typical of burning organic material. May emit poisonous fumes.

May emit corrosive fumes.

6. Accidental release measures**Minor Spills**

Remove all ignition sources.

Clean up all spills immediately.

Avoid breathing vapours and contact with skin and eyes.

Control personal contact with the substance, by using protective equipment.

Contain and absorb small quantities with vermiculite or other absorbent material. Wipe up.

Collect residues in a flammable waste container.

Major Spills

Moderate hazard.

Clear area of personnel and move upwind.

Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves.

Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights or ignition sources.

Increase ventilation.

Stop leak if safe to do so.

Contain spill with sand, earth or vermiculite.

Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite.

Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains.

If contamination of drains or waterways occurs, advise emergency services.

7. Handling and storage**Handling:**

Avoid all personal contact, including inhalation.

Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area.

Prevent concentration in hollows and sumps.

DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, naked lights or ignition

sources.
 Avoid contact with incompatible materials.
 When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers.
 Always wash hands with soap and water after handling. Work clothes should be laundered separately. Use good occupational work practice.
 Observe manufacturer's storage and handling recommendations contained within this SDS.
 Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.
 DO NOT allow clothing wet with material to stay in contact with skin

Other information

Store in original containers.
 Keep containers securely sealed.
 No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area.
 Store away from incompatible materials and foodstuff containers.
 Protect containers against physical damage and check regularly for leaks.
 Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage

Suitable containers

Metal can or drum
 Packaging as recommended by manufacturer.
 Check all containers are clearly labelled and free from leaks.

Storage incompatibility

Avoid reaction with oxidising agents

8. Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

≤0.1 ppm

Biological limit values

No data available

Individual protection measures



Respiratory protection

When the concentration in the air exceeds the standard, wear a filter gas mask; Wear a portable respirator in case of emergency.

Eye/face protection

Safety glasses with side shields Chemical goggles.

In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly.

Skin and body protection

Wear safety shoes or boots and work clothes.

Hands/feet protection

Wear chemical protective gloves, e.g. PVC.

Wear safety footwear or safety gumboots, e.g. Rubber

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly.

Other protection

Overalls.

P.V.C apron.

Barrier cream.

Skin cleansing cream. Eye wash unit.

9. Physical and chemical properties

Viscosity @ 40°C: 2 mm ² /s
Viscosity @ 100°C: 5.25 mm ² /s
Flash point(COC): 86
Boiling point, initial boiling point, and boiling range (°C): 230
Density @15°C: 0.87g/cm ³
Color: from colorless to light yellow

10. Stability and reactivity

Reactivity No data available
Chemical stability No data available
Possibility of hazardous reactions No data available
Conditions to avoid No data available
Incompatible materials No data available
Hazardous decomposition products No data available

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 No data available
STOT-repeated exposure No data available
Aspiration hazard No data available

12. Ecological information

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

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

13. Disposal considerations

Waste chemicals

DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal.

In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

Where in doubt contact the responsible authority. Recycle wherever possible.

Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.

Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).

Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Contaminated packing materials

Refer to section above.

14. Transport information

United Nations No.

Not Available

United Nations transport designation

Not Available

United Nations risk classification

Not Available

Packaging category

Not Available

Marine pollutants (Yes/No)

No

Transportation precautions

- The tank (tank) car used in transportation should have a grounding chain, and the hole partition can be provided in the tank to reduce static electricity generated by shock;
- The exhaust pipe of the vehicle carrying the articles must be equipped with a fire retardant device, and the loading and unloading of mechanical equipment and tools that are easy to produce sparks is prohibited;
- It is strictly prohibited to mix with oxidants and edible chemicals;
- During transportation should prevent exposure to sunlight, rain, high temperature, summer is best transported in the morning and evening;
- Stay away from fire, heat sources and high temperature areas during the stopover;
- When road transportation should follow the prescribed route, do not stay in residential areas and densely populated areas;
- It shall be prohibited to slip them during railway transportation;
- Transport vehicles shall be equipped with the corresponding varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

Special precautions

Land transport (UN): Not regulated for transport of dangerous goods.
 Air transport (ICAO-IATA / DGR): Not regulated for transport of dangerous goods.
 Sea transport (IMDG-Code / GGVSee): Not regulated for transport of dangerous goods.

15. Regulatory Information

National inventory	Status
Australia - AIIC/Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (dodecamethylpentasiloxane)
China - IECSC	Yes
Europe - EINECS/ELINCS/NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No data
Vietnam - NCI	No data
Russia - FBEPH	No data

16. Other Information

Definitions and abbreviations

Abbreviation	Full Name	Abbreviation	Full Name
ACGIH	American Conference of Government Industrial Hygienists	NCI	National Chemical Inventory
AIIC	Australian Inventory of Industrial Chemicals	NDSL	Non-Domestic Substances List
BCF	Bio-concentration Factors	NLP	No-Longer Polymers
BEI	Biological Exposure Index	NOAEL	No Observed Adverse Effect Level
DSL	Domestic Substances List	NZIoC	New Zealand Inventory of Chemicals
EINECS	European Inventory of Existing Commercial chemical Substances	OSF	Odour Safety Factor
ELINCS	European List of Notified Chemical Substances	OTV	Odour Threshold Value
ENCS	Existing and New Chemical Substances Inventory	PC - STEL	Permissible Concentration-Short Term Exposure Limit
ES	Exposure Standard	PC - TWA	Permissible Concentration-Time Weighted Average
FBEPH	Russian Register of Potentially Hazardous Chemical and Biological Substances	PICCS	Philippine Inventory of Chemicals and Chemical Substances
IARC	International Agency for Research on Cancer	STEL	Short Term Exposure Limit
IDLH	Immediately Dangerous to Life or Health Concentrations	TCSI	Taiwan Chemical Substance Inventory
IECSC	Inventory of Existing Chemical Substance in China	TEEL	Temporary Emergency Exposure Limit
INSQ	Inventario Nacional de Sustancias Químicas	TLV	Threshold Limit Value
KECI	Korea Existing Chemicals Inventory	TSCA	Toxic Substances Control Act
LOAEL	Lowest Observed Adverse Effect Level		
LOD	Limit Of Detection		

Disclaimer

The information in the SDS applies only for the specified product and does not include mixtures of this product with other substances and mixtures. The SDS provides product safety information for personnel trained to use this product only.