

# SAFETY DATA SHEET

## Heat Transfer Fluid S4 T

Version 1.1

Revision Date 06.05.2024

Print Date 07.05.2024

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Heat Transfer Fluid S4 T

Product code : 001I2895

#### Manufacturer or supplier's details

Manufacturer/Supplier : **Shell India Markets Private Limited**  
Commerzone, Block-2, No.2  
200 Feet Radial Road  
Pallikaranai  
CHENNAI  
600100  
India

Telephone : (+91) 04446945100

Telefax : (+91) 04443451516

Emergency telephone : +91 22 6516 1058  
number

#### Recommended use of the chemical and restrictions on use

Recommended use : Heat transfer oil.

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
Terphenyl, Hydrogenated (SVHC)	61788-32-7	Aquatic Chronic 2; H411	80 - 90

For explanation of abbreviations see section 16.

### 3. HAZARDS IDENTIFICATION

#### Classification (REGULATION (EC) No 1272/2008)

Long-term (chronic) aquatic : Category 2  
hazard

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### Label elements

Hazard pictograms

:



Signal word

: No signal word

Hazard statements

: **PHYSICAL HAZARDS:**  
Not classified as a physical hazard according to CLP criteria.  
**HEALTH HAZARDS:**  
Not classified as a health hazard under CLP criteria.  
**ENVIRONMENTAL HAZARDS:**  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**  
P273 Avoid release to the environment.  
**Response:**  
P391 Collect spillage.  
**Storage:**  
No precautionary phrases.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis. Used oil may contain harmful impurities. Not classified as flammable but will burn.

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## 4. FIRST-AID MEASURES

If inhaled

: No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

In case of skin contact

: Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

In case of eye contact

: Flush eye with copious quantities of water. Remove contact lenses, if present and easy to do. Continue rinsing. If persistent irritation occurs, obtain medical attention.

If swallowed

: In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and delayed

: Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.

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Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

Notes to physician : Treat symptomatically.

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### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media : Do not use water in a jet.

Specific hazards during firefighting : Hazardous combustion products may include:  
A complex mixture of airborne solid and liquid particulates and gases (smoke).  
Carbon monoxide may be evolved if incomplete combustion occurs.  
Unidentified organic and inorganic compounds.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

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### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid contact with skin and eyes.

Environmental precautions : Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material.  
Reclaim liquid directly or in an absorbent.  
Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

Additional advice : For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.  
For guidance on disposal of spilled material see Section 13 of

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this Safety Data Sheet.

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### 7. HANDLING AND STORAGE

- General Precautions** : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.  
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
- Advice on safe handling** : Avoid prolonged or repeated contact with skin.  
Avoid inhaling vapour and/or mists.  
When handling product in drums, safety footwear should be worn and proper handling equipment should be used.  
Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
- Avoidance of contact** : Strong oxidising agents.
- Product Transfer** : Proper grounding and bonding procedures should be used during all bulk transfer operations to avoid static accumulation.

#### **Storage**

- Other data** : Keep container tightly closed and in a cool, well-ventilated place.  
Use properly labeled and closable containers.  
Must be stored in a diked (bunded) area.

Store at ambient temperature.

- Packaging material** : Suitable material: For containers or container linings, use mild steel or high density polyethylene.  
Unsuitable material: PVC.

- Container Advice** : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

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### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

#### **Components with workplace control parameters**

#### **Biological occupational exposure limits**

No biological limit allocated.

#### **Monitoring Methods**

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

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Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods  
<http://www.cdc.gov/niosh/>

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods  
<http://www.osha.gov/>

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances  
<http://www.hse.gov.uk/>

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany  
<http://www.dguv.de/inhalt/index.jsp>

L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/accueil>

**Engineering measures** : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:  
Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

### Personal protective equipment

#### Protective measures

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory protection : No respiratory protection is ordinarily required under normal conditions of use.  
In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.  
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker

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health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for the combination of organic gases and vapours and particles [Type A/Type P boiling point >65°C (149°F)].

### Hand protection Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

### Eye protection

: If material is handled such that it could be splashed into eyes, protective eyewear is recommended.

### Skin and body protection

: Skin protection is not ordinarily required beyond standard work clothes.  
It is good practice to wear chemical resistant gloves.

### Thermal hazards

: Not applicable

### Environmental exposure controls

#### General advice

: Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Section 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.  
Local guidelines on emission limits for volatile substances

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must be observed for the discharge of exhaust air containing vapour.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: clear
Odour	: Slight hydrocarbon
Odour Threshold	: Data not available
pH	: Not applicable
pour point	: -24 °C / -11 °F Method: ISO 3016
Melting / freezing point	Data not available
Initial boiling point and boiling range	: > 280 °C / 536 °F estimated value(s)
Flash point	: 175 °C / 347 °F Method: ASTM D93 (PMCC)
	186 °C / 367 °F Method: ASTM D92 (COC)
Evaporation rate	: Data not available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: Not classified as flammable but will burn.
Upper explosion limit	: Typical 10 %(V)
Lower explosion limit	: Typical 1 %(V)
Vapour pressure	: < 0.5 Pa (20 °C / 68 °F) estimated value(s)
Relative vapour density	: > 1 estimated value(s)
Density	: 1,017 kg/m <sup>3</sup> (20 °C / 68 °F) Method: ISO 12185
Solubility(ies)	
Water solubility	: negligible
Solubility in other solvents	: Data not available
Partition coefficient: n-octanol/water	: log Pow: > 6 (based on information on similar products)
Auto-ignition temperature	: > 320 °C / 608 °F

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Decomposition temperature	: Data not available
Viscosity	
Viscosity, dynamic	: Data not available
Viscosity, kinematic	: 29 mm <sup>2</sup> /s (40.0 °C / 104.0 °F) Method: ISO 3104
	4 mm <sup>2</sup> /s (100 °C / 212 °F) Method: ISO 3104
Explosive properties	: Classification Code: Not classified
Oxidizing properties	: Data not available
Conductivity	: This material is not expected to be a static accumulator.
Particle size	: Data not available

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### 10. STABILITY AND REACTIVITY

Reactivity	: The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	: Stable.
Possibility of hazardous reactions	: Reacts with strong oxidising agents.
Conditions to avoid	: Extremes of temperature and direct sunlight.
Incompatible materials	: Strong oxidising agents.
Hazardous decomposition products	: No decomposition if stored and applied as directed.

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### 11. TOXICOLOGICAL INFORMATION

Basis for assessment	: Information given is based on data on the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Information on likely routes of exposure	: Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

#### Acute toxicity



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### Product:

Acute oral toxicity : LD50 rat: > 5,000 mg/kg  
Remarks: Low toxicity  
Based on available data, the classification criteria are not met.

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 Rabbit: > 5,000 mg/kg  
Remarks: Low toxicity  
Based on available data, the classification criteria are not met.

### Skin corrosion/irritation

#### Product:

Remarks: Slightly irritating to skin., Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis., Based on available data, the classification criteria are not met.

### Serious eye damage/eye irritation

#### Product:

Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

### Respiratory or skin sensitisation

#### Product:

Remarks: Not a skin sensitiser.  
Based on available data, the classification criteria are not met.

### Germ cell mutagenicity

#### Product:

Remarks: Non mutagenic, Based on available data, the classification criteria are not met.

### Carcinogenicity

#### Product:

Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

Material	GHS/CLP Carcinogenicity Classification
Highly refined mineral oil	No carcinogenicity classification.

### Reproductive toxicity

#### Product:

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Remarks: Not a developmental toxicant., Does not impair fertility., Based on available data, the classification criteria are not met.

### STOT - single exposure

**Product:**

Remarks: Based on available data, the classification criteria are not met.

### STOT - repeated exposure

**Product:**

Remarks: Based on available data, the classification criteria are not met.

### Aspiration toxicity

**Product:**

Not an aspiration hazard.

### Further information

**Product:**

Remarks: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal., ALL used oil should be handled with caution and skin contact avoided as far as possible.

Remarks: Slightly irritating to respiratory system.

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## 12. ECOLOGICAL INFORMATION

Basis for assessment : Ecotoxicological data have not been determined specifically for this product.  
Information given is based on a knowledge of the components and the ecotoxicology of similar products.  
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

### Ecotoxicity

**Product:**

Toxicity to fish (Acute toxicity) :  
Remarks: LL/EL/IL50 1-10 mg/l  
Toxic

Toxicity to crustacean (Acute toxicity) :  
Remarks: LL/EL/IL50 1-10 mg/l

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Toxic

Toxicity to algae/aquatic plants (Acute toxicity) :  
Remarks: LL/EL/IL50 1-10 mg/l  
Toxic

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to crustacean (Chronic toxicity) : Remarks: Data not available

Toxicity to microorganisms (Acute toxicity) : Remarks: Data not available

### Persistence and degradability

#### Product:

Biodegradability : Remarks: Not readily biodegradable., Major constituents are inherently biodegradable, but contains components that may persist in the environment.

### Bioaccumulative potential

#### Product:

Bioaccumulation : Remarks: Contains components with the potential to bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: > 6Remarks: (based on information on similar products)

### Mobility in soil

#### Product:

Mobility : Remarks: Liquid under most environmental conditions., If it enters soil, it will adsorb to soil particles and will not be mobile.  
Remarks: Floats on water.

### Other adverse effects

no data available

#### Product:

Additional ecological information : Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential., Product is a mixture of non-volatile components, which will not be released to air in any significant quantities under normal conditions of use.  
Poorly soluble mixture., Causes physical fouling of aquatic organisms.  
Mineral oil does not cause chronic toxicity to aquatic organisms at concentrations less than 1 mg/l.

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## 13. DISPOSAL CONSIDERATIONS

### Disposal methods

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- Waste from residues : Recover or recycle if possible.  
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.  
Do not dispose into the environment, in drains or in water courses.
- Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.  
Waste, spills or used product is dangerous waste.  
Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.  
Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.
- MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.
- Contaminated packaging : Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.  
Disposal should be in accordance with applicable regional, national, and local laws and regulations.
- Local legislation  
Remarks : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

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### 14. TRANSPORT INFORMATION

#### International Regulations

##### ADR

- UN number : 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Terphenyl, Hydrogenated)
- Class : 9  
Packing group : III  
Labels : 9  
Hazard Identification Number : 90  
Environmentally hazardous : yes

##### IATA-DGR

- UN/ID No. : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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	N.O.S. (Terphenyl, Hydrogenated)
Class	: 9
Packing group	: III
Labels	: 9
<b>IMDG-Code</b>	
UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Terphenyl, Hydrogenated)
Class	: 9
Packing group	: III
Labels	: 9
Marine pollutant	: yes

### Maritime transport in bulk according to IMO instruments

MARPOL Annex 1 rules apply for bulk shipments by sea.

### Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

**Additional Information** : Classified under TDG regulations for domestic road and rail transport, if shipped by vessel or air please ensure that the DG classification is compliant for the mode of transport being used.

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## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

The Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 (amended version issued 2000). The Factories Act, 1948, The Second Schedule: Permissible levels of certain chemical substances in work environment, as amended through 1987. India Central motor Vehicles (Amendment) Rules 1993.

### Other international regulations

#### The components of this product are reported in the following inventories:

TSCA : All components listed.

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## 16. OTHER INFORMATION

### Full text of H-Statements

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H411 Toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Aquatic Chronic Long-term (chronic) aquatic hazard

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

SDS Regulation : Regulation 1907/2006/EC

### Further information

Training advice : Provide adequate information, instruction and training for operators.

Other information : A vertical bar (|) in the left margin indicates an amendment from the previous version.

Sources of key data used to compile the Safety Data Sheet : The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID data base, EC 1272 regulation, etc).

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.