

MARLOTHERM® SH Heat Transfer Fluid

PRD / SDSIN / EN / 0001

Version	Revision Date:	SDS Number:	Date of last issue: 26.06.2023
2.4	28.06.2023	150000114174	Date of first issue: 05.11.2019

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : MARLOTHERM® SH Heat Transfer Fluid

Product code : 34536-00, 50214253, P34536S2, P34536S5, P34536S1, E3453601, P3453603, P3453602, P3453600, P3453601, P34536R0

Manufacturer or supplier's details

Company : Eastman Chemical Company

Address : 200 South Wilcox Drive
Kingsport TN 37660-5147

Telephone : (423) 229-2000

Emergency telephone number : 000 800 100 7479, NCEC +65 3158 1198, International +65 6262-6462

Recommended use of the chemical and restrictions on use

Recommended use : Heat transfer fluids

Restrictions on use : None known.

2. HAZARDS IDENTIFICATION



Manufacture, Storage and Import of Hazardous Chemicals Rules 1989**Classification****GHS Classification**

Reproductive toxicity : Category 1B

Aspiration hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :  

Signal word : Danger

Hazard statements : H304 May be fatal if swallowed and enters airways.
H360FD May damage fertility. May damage the unborn child.
H410 Very toxic to aquatic life with long lasting effects.

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Precautionary statements :

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P391 Collect spillage.

Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

CAS-No. : Not Assigned

Components

Chemical name	CAS-No.	Concentration (% w/w)
Dibenzyl toluene	26898-17-9	>= 90 - <= 100

4. FIRST AID MEASURES

If inhaled : Move to fresh air.
Treat symptomatically.
If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and water.
If symptoms persist, call a physician.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed : Call a physician or poison control center immediately.
Do NOT induce vomiting.
If victim is fully conscious, give a cupful of water.

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Never give anything by mouth to an unconscious person.
Hold person's head low, to prevent aspiration.

Most important symptoms and effects, both acute and delayed : May be fatal if swallowed and enters airways.
May damage fertility. May damage the unborn child.

Notes to physician : Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO2)
Dry chemical
Water spray
Foam

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
Do NOT use water jet.

Specific hazards during fire-fighting : None known.

Specific extinguishing methods : None known.

Special protective equipment for firefighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear appropriate personal protective equipment.
Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Advice on protection against fire and explosion : None known.

Advice on safe handling : Do not taste or swallow.
Wash thoroughly after handling.

Conditions for safe storage : Keep tightly closed.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

Engineering measures : Good general ventilation (typically 10 air changes per hour) should be sufficient to control airborne levels.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Hand protection

Remarks : Wear suitable gloves.

Eye protection : Safety glasses

Protective measures : Remove respiratory and skin/eye protection only after vapors have been cleared from the area.
Ensure that eye flushing systems and safety showers are located close to the working place.
Use personal protective equipment as required.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : colourless, yellow

Odour : slight

Odour Threshold : not determined

pH : not determined

Melting point/freezing point : -39 - -32 °C

Boiling point/boiling range : 390 °C

Flash point : 212 °C

Method: Pensky-Martens closed cup

Evaporation rate : not determined

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Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapour pressure	:	< 0.01 hPa (20 °C)
Relative density	:	> 1
Solubility(ies) Water solubility	:	< 0.1 mg/l
Partition coefficient: n-octanol/water	:	log Pow: > 6 (22 °C)
Decomposition temperature	:	not determined
Viscosity Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	48 mm ² /s (20 °C) 16 mm ² /s (40 °C)
Explosive properties	:	No data available
Oxidizing properties	:	No data available

10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	No decomposition if stored normally. Stable under normal conditions.
Possibility of hazardous reactions	:	Heating can release hazardous gases. Stable Vapours may form explosive mixture with air.
Conditions to avoid	:	Direct heating, dirt, chemical contamination, sunlight, UV or ionising radiation. Extremes of temperature and direct sunlight.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Carbon dioxide (CO ₂) Carbon monoxide

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11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Not classified based on available information.

Product:

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

Components:**Dibenzyl toluene:**

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
Assessment: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : LC0: > 0.24 mg/l
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD0 (Rabbit): > 2,000 mg/kg
Assessment: Based on available data, the classification criteria are not met.

LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Not classified based on available information.

Product:

Remarks : No data available

Components:**Dibenzyl toluene:**

Method : OECD Test Guideline 404
Result : slight irritation
Remarks : Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Not classified based on available information.

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Product:

Remarks : No data available

Components:**Dibenzyl toluene:**

Method	:	OECD Test Guideline 405
Result	:	No eye irritation
Remarks	:	Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation**Skin sensitisation**

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Product:

Remarks : No data available

Components:**Dibenzyl toluene:**

Species	:	Guinea pig
Result	:	Does not cause skin sensitization.

Germ cell mutagenicity

Not classified based on available information.

Components:**Dibenzyl toluene:**

Genotoxicity in vitro	:	Remarks: In vitro tests did not show mutagenic effects
Genotoxicity in vivo	:	Remarks: In vivo tests did not show mutagenic effects

Carcinogenicity

Not classified based on available information.

Product:

Remarks : This information is not available.

Components:**Dibenzyl toluene:**

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

Reproductive toxicity

May damage fertility. May damage the unborn child.

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Product:

Effects on fertility : Remarks: May damage fertility. May damage the unborn child.

Effects on foetal development : Remarks: May damage fertility. May damage the unborn child.

Components:**Dibenzyl toluene:**Effects on fertility : Species: Rat, male and female
Application Route: Oral
General Toxicity - Parent: NOAEL: 250 mg/kg bw/day
General Toxicity F1: NOAEL: 250 mg/kg bw/day
General Toxicity F2: NOAEL: 80 mg/kg body weight
Method: OECD Test Guideline 421
Remarks: May damage fertility. May damage the unborn child.Effects on foetal development : Test Type: Developmental Toxicity
Species: Rabbit, female
Strain: NZW
Application Route: Oral
General Toxicity Maternal: NOAEL: 75 mg/kg body weight
Developmental Toxicity: LOAEL: 10 mg/kg body weight
Method: OECD Test Guideline 414**STOT - single exposure**

Not classified based on available information.

Product:

Remarks : No data available

Components:**Dibenzyl toluene:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Not classified based on available information.

Product:

Remarks : No data available

Components:**Dibenzyl toluene:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration toxicity

May be fatal if swallowed and enters airways.

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Experience with human exposure**Product:**

Inhalation	:	Remarks: None known.
Skin contact	:	Remarks: None known.
Eye contact	:	Remarks: None known.
Ingestion	:	Remarks: May be fatal if swallowed and enters airways.

Further information**Product:**

Remarks	:	None known.
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12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Dibenzyl toluene:**

Toxicity to fish	:	(Danio rerio (zebra fish)): 0.00005 mg/l End point: mortality Exposure time: 96 h Test Type: Fish, Acute Toxicity Test
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): > 0.029 mg/l End point: Immobilization Exposure time: 48 h Test Type: Daphnia sp. Acute Immobilisation Test
Toxicity to algae/aquatic plants	:	LC50 (Skeletonema costatum (marine diatom)): 0.000016 mg/l End point: Growth rate Exposure time: 72 h Test Type: Alga, Growth Inhibition Test
Toxicity to fish (Chronic toxicity)	:	NOEC: > 0.46 mg/l End point: mortality Exposure time: 14 d Species: Leuciscus idus (Golden orfe) Test Type: Fish, Prolonged Toxicity Test: 14-day Study
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.0014 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: Daphnia magna Reproduction Test
M-Factor (Chronic aquatic toxicity)	:	10

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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**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

UN/ID No.	: UN 3082
Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (Dibenzylbenzene, ar-methyl derivative)
Class	: 9
Packing group	: III
Labels	: Miscellaneous
Packing instruction (cargo aircraft)	: 964
Packing instruction (passenger aircraft)	: 964
Remarks	: Shipping in package sizes of less than 5 L (liquids) or 5 KG (solids) may lead to a non-regulated classification.

IMDG-Code

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dibenzylbenzene, ar-methyl derivative)
Class	: 9
Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: yes
Remarks	: Shipping in package sizes of less than 5 L (liquids) or 5 KG (solids) may lead to a non-regulated classification.

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

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Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****The components of this product are reported in the following inventories:**

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AICS	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

16. OTHER INFORMATION

Revision Date : 28.06.2023

Further information

Other information : Other means of identification
Dibenzylbenzene, ar-methyl derivative

Sources of key data used to compile the Safety Data Sheet : Chemical Safety Report

Date format : dd.mm.yyyy

Full text of other abbreviations

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AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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