



SAFETY DATA SHEET

Product Name: Therminol 66 Heat Transfer Fluid

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name TRU-BLU OIL AUSTRALIA PTY LTD
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Synonym(s) Therminol 66, Heat Transfer Fluid

Use(s) Heat transfer fluid.
SDS Date 12th April 2018
Reviewed Date 12th September 2022

2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Concentration (% w/w)
terphenyl, hydrogenated	61788-32-7	74 -87
quaterphenyls and higher polyphenyls, partially hydrogenated	68956-74-1	10-18
Terphenyl	26140-60-3	3-8

4. FIRST AID MEASURES

- Inhalation**
- Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen.
 - Get medical attention if symptoms occur.
- Skin**
- If skin contact occurs:
- Wash off with soap and plenty of water.
 - Get medical attention if symptoms occur.
 - Wash contaminated clothing before reuse.
- Eye**
- If this product comes in contact with the eyes:
- Immediately flush the eyes with water for at least 15 minutes.
 - Get medical attention if symptoms occur
- Swallowed**
- If this product is ingested:
- Call a physician or poison control center immediately.
 - Do NOT induce vomiting.
 - Rinse mouth.
 - Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed**
- The molten product can cause serious burns.
- Advice to Doctor**
- Treat Symptomatically

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

- Water spray
- Carbon dioxide (CO₂)
- Dry chemical
- Foam

Unsuitable extinguishing media

- Do not use a solid water stream as it may scatter and spread fire.

Hazardous combustion products

- Hazardous decomposition products due to incomplete combustion
- Carbon oxides

Further information

- Use a water spray to cool fully closed containers.
- Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment for fire-fighters

- 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

- Ventilate the area.
- Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- Avoid contact with skin and eyes.
- Material can create slippery conditions.
- Wear appropriate personal protective equipment.
- Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions

- Clear up spills immediately and dispose of waste safely.
- 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. STORAGE AND HANDLING

Storage

Keep container tightly closed in a dry and well-ventilated place.
Keep in a cool place away from oxidizing agents.

Handling

MC 80 Fuel Conditioner is a well -proven multi- fuel performance enhancer combined with a biocide and can be added to any petrol & diesel fuel.

MC 80 Fuel Conditioner when continually used applies a coating on the rings and valves to prevent loss of compression and combustion gases, effectively sealing the combustion chamber to maximise power and reduce wear.

MC 80 Fuel Conditioner cleans injectors of gum and resin build up that that holds carbon in place in the combustion chamber. MC 80 Fuel Conditioner promotes complete combustion of diesel inhibiting the build-up of carbon deposits in the combustion chamber. As a result, black diesel smoke and soot levels in oil are dynamically reduced.

MC 80 Fuel Conditioner helps to kill & effectively control the spread of microbe infestation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
terphenyl, hydrogenated	61788-32-7	TWA	0.5 ppm	ACGIH
		TWA	0.5 ppm 5 mg/m ³	NIOSH REL
		TWA	0.5 ppm 5 mg/m ³	OSHA P0

Engineering measures

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection

Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hand protection

Remarks

Wear suitable gloves. When handling hot material, use heat resistant gloves.

Eye protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing.

Protective measures

Ensure that eye flushing systems and safety showers are located close to the working place.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	liquid
Color:	colorless, light yellow
Odor:	characteristic
Odor Threshold:	not determined
pH:	not determined
Melting point/range:	< -11 °F / < -24 °C (1,013 hPa)
Boiling point/boiling range:	678 °F / 359 °C (1,013 hPa)
Flash point:	338 °F / 170 °C Method: Pensky-Martens closed cup 363 °F / 184 °C Method: Cleveland open cup
Evaporation rate:	not determined
Self-ignition:	705 °F / 374 °C 1,013 hPa Method: ASTM E659
Upper explosion limit / Upper flammability limit:	not determined
Lower explosion limit / Lower flammability limit:	not determined
Vapor pressure:	0.00174 hPa (68 °F / 20 °C)
Relative vapor density:	not determined
Relative density:	1.013 (68 °F / 20 °C)
Solubility(ies) Water solubility:	0.061 mg/l (68 °F / 20 °C)
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	not determined
Decomposition temperature:	not determined
Viscosity Viscosity, dynamic:	not determined
Viscosity, kinematic:	133 mm ² /s (68 °F / 20 °C) 29.6 mm ² /s (104 °F / 40 °C) 3.8 mm ² /s (212 °F / 100 °C)
Explosive properties:	Not classified
Oxidizing properties:	Not classified

10. STABILITY AND REACTIVITY

Reactivity:	None reasonably foreseeable.
Chemical stability:	Stable under normal conditions.
Possibility of hazardous reactions:	None known.
Conditions to avoid:	Heating in air. Keep away from flames and sparks.
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	Emits acrid smoke and fumes when heated to decomposition.

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:

terphenyl, hydrogenated:

Acute oral toxicity: LD50 Oral (Rat): > 10,000 mg/kg

Acute dermal toxicity: LD50 Dermal (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Product:

Remarks: No data available

Components:

terphenyl, hydrogenated:

Species: Rabbit

Exposure time: 24 h

Result: none

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Remarks: No data available

Components:

terphenyl, hydrogenated:

Species: Rabbit

Result: none

Exposure time: 24 h

Respiratory or skin sensitization**Skin sensitization**

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks: No data available

Components:**terphenyl, hydrogenated:**

Species: Humans

Result: Not a skin sensitizer.

Germ cell mutagenicity

Not classified based on available information.

Components:

terphenyl, hydrogenated:

Genotoxicity in vitro:

Test Type: Mutagenicity - Bacterial

Method: Bacterial Reverse Mutation Assay

Result: negative

Test Type: Chromosome aberration test in vitro

Method: In vitro Mammalian Cell Gene Mutation Test

Result: negative

Test Type: Mutagenicity - Mammalian

Result: negative

Genotoxicity in vivo:

Species: Rat

Method: Mammalian Bone Marrow Chromosome Aberration Test

Result: negative

Carcinogenicity

Not classified based on available information.

Product:

Species: Mouse, Male and Female

Application Route: Dermal

Remarks: Not classified

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility: Remarks: No data available

STOT-single exposure

Not classified based on available information.

Product:

Remarks: No data available

STOT-repeated exposure

Not classified based on available information.

Product:

Remarks: No data available

Repeated dose toxicity**Components:****terphenyl, hydrogenated:**

Species: Rat

NOAEL: 12 mg/kg

LOAEL: 120 mg/kg

Application Route: Oral Study

Exposure time: 90 d

Species: Rabbit

NOAEL: 2,000 mg/kg

Application Route: Dermal

Aspiration toxicity

Not classified based on available information.

Product:

No data available

Information on likely routes of exposure

Product:

Inhalation: Remarks: None known.

Skin contact: Remarks: None known.

Eye contact: Remarks: None known.

Ingestion: Remarks: None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 1 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (algae)): 56 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOELR (Daphnia magna (Water flea)): 1 mg/l
End point: mortality
Exposure time: 21 d
Method: OECD Test Guideline 211

Components:

terphenyl, hydrogenated:

Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 1,000 mg/l
Exposure time: 96 h

Remarks: No toxicity at the limit of solubility.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOELR (Daphnia magna (Water flea)): 1 mg/l
End point: mortality
Exposure time: 21 d
Method: OECD Test Guideline 211

Persistence and degradability

Components:

terphenyl, hydrogenated:

Biodegradability: Result: Partially biodegradable.

Bioaccumulative potential
Components:
terphenyl, hydrogenated:

Bioaccumulation:
Partition coefficient: n-octanol/water:

Bioconcentration factor (BCF): 700 - 5,200
log Pow: > 6.5

Mobility in soil

Components:
terphenyl, hydrogenated:
Distribution among environmental compartments:
Other adverse effects

log Koc: 5.5

Components:
terphenyl, hydrogenated:
Results of PBT and vPvB assessment:

This substance is considered to be very persistent and very bioaccumulating (vPvB).

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues:

Dispose of in accordance with local regulations.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

This material when discarded may be a hazardous waste as that term is defined by the Resource Conservation and Recovery Act (RCRA), 40 CFR 261.24, due to its toxicity characteristic. This material should be analyzed in accordance with Method 1311 for the compound D018 BENZENE.

Consult 40 CFR 268.40 or appropriate local regulations for concentration based standards.

This product meets the criteria for a synthetic used oil under the U.S. EPA Standards for the Management of Used Oil (40 CFR 279). Those standards govern recycling and disposal in lieu of 40 CFR 260 -272 of the Federal hazardous waste program in states that have adopted these used oil regulations. Consult your attorney or appropriate regulatory official to be sure these standards have been adopted in your state. Recycle or burn in accordance with the applicable standards.

14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.: **UN 3082**

Proper shipping name: **Environmentally hazardous substance, liquid, n.o.s.**

(terphenyl, hydrogenated)

Class: 9
Packing group: III
Labels: Miscellaneous
Packing instruction (cargo aircraft): 964
Packing instruction (passenger aircraft): 964

IMDG-Code

UN number: UN 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(terphenyl, hydrogenated)

Class: 9

Packing group: III
Labels: 9
EmS Code: F-A, S-F
Marine pollutant: yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

Remarks: Shipping in package sizes of less than 5 L (liquids) or 5 KG (solids) may lead to a non-regulated classification.

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

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards: No SARA Hazards

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

DSL: All components of this product are on the Canadian DSL
AICS: On the inventory, or in compliance with the inventory
ENCS: Not listed
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
TCSI: On the inventory, or in compliance with the inventory
TSCA: All substances listed as active on the TSCA inventory

TSCA list

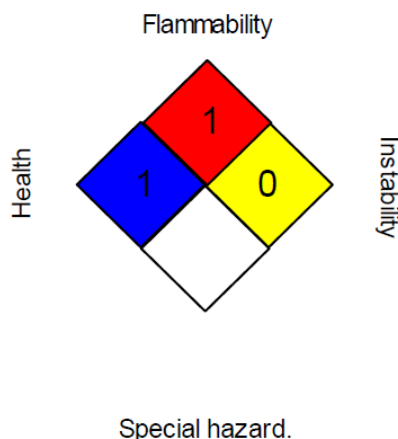
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	/	1
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

MINERAL OILS - SOLVENT REFINED; Animal experiments and human experience have not shown cancer risks when handling solvent refined mineral oils, unlike non refined mineral oils. CLEANING MINERAL OIL

CONTAMINATED CLOTHING; Cleaners are advised that when cleaning oil contaminated clothing it is essential that freshly distilled solvent is used for each batch, including final rinse, as even filtered solvent will leave oil residues.

MINERAL OILS - USED; Used mineral oils in engine crankcases and other high temperature/high stress environments may contain potentially harmful residues, some of which have been shown to cause irreversible skin effects, including cancer. Prolonged and repeated inhalation of mists associated with used mineral oils may result in pulmonary fibrosis.

MINERAL OILS - INJECTION; Where high pressure applications are used the risk of accidental injection under the skin exists and may result in an extremely painful and serious injury requiring immediate medical attention. Depending on the pressure used, mineral oils may be injected a considerable distance below the skin and may cause permanent tissue damage. SEEK IMMEDIATE MEDICAL ATTENTION. EXERCISE EXTREME CARE WHEN USING HIGH PRESSURE EQUIPMENT.

ABBREVIATIONS:

ACGIH:USA. ACGIH Threshold Limit Values (TLV)

NIOSH REL:USA. NIOSH Recommended Exposure Limits

OSHA P0:USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

ACGIH / TWA:8-hour, time-weighted average

NIOSH REL / TWA:Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

OSHA P0 / TWA:8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight;

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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; IECS - 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level;

NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance 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

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Report Status

This document has been compiled by Tru Blu Oil, the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While Tru Blu Oil has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Tru Blu Oil accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

SDS Date: 12h September 2022

End of Report