

Solutia Inc.

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: THERMINOL® 66 Heat transfer fluid

Reference Number: 000000000198

Date: 01/4/2011

Company Information:

United States:

Solutia Inc.
575 Maryville Center Drive, P.O. Box 66760
St. Louis, MO 63166-6760
Emergency telephone: Chemtrec: 1-800-424-9300
International Emergency telephone: Chemtrec: 703-527-3887
Non-Emergency telephone: 1-314-674-6661

Canada:

Solutia Canada Inc.
7475 Boul Newman Suite 301
LaSalle, QC H8N 1X3
Emergency telephone: CANUTEC: 1-613-996-6666
Non-Emergency telephone: 1-314-674-6661

Mexico:

Solutia MEXICO, S. DE R.L. DE C.V.
Prol. Paseo de la Reforma 2654
Local 501, Piso-5
Col. Lomas Altas
11950 Mexico, D.F.
Emergency telephone: SETIQ: (in Mexico) 01-800-002-1400
Non-Emergency telephone: (in Mexico) 01-55-5259-6800

Brazil:

Solutia Brazil Ltd.
Avenue Carlos Marcondes, 1200
CEP: 12241-420-São José dos Campos/SP-Brazil
Emergency telephone: 55 12 3932 7100 (PABX)
Non-Emergency telephone: 55 11 3146 1800 (PABX)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Form: oily, liquid
Colour: clear to pale yellow
Odour: characteristic

WARNING STATEMENTS

CAUTION!
May cause eye irritation
May cause skin irritation
May cause respiratory tract irritation

POTENTIAL HEALTH EFFECTS

Likely routes of exposure:	eye and skin contact inhalation
Eye contact:	Moderately irritating to eyes.
Skin contact:	Moderately irritating to skin. No more than slightly toxic if absorbed. Repeated contact may cause a drying, solvent like action on the skin.
Inhalation:	No more than slightly toxic if inhaled. Elevated processing temperatures may cause release of vapours which are irritating if inhaled. Significant adverse health effects are not expected to develop under normal conditions of exposure.
Ingestion:	No more than slightly toxic if swallowed. Significant adverse health effects are not expected to develop if only small amounts (less than a mouthful) are swallowed.
Signs and symptoms of overexposure:	headache dizziness/incoordination nausea/vomiting loss of consciousness vertigo confusion anxiety laboured breathing drowsiness

Refer to Section 11 for toxicological information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Components</u>	<u>CAS No.</u>	<u>Average concentration</u>	<u>Concentration range</u>	<u>Units</u>
terphenyl, hydrogenated	61788-32-7		>=74.0 - <=87.0	%
quaterphenyls and higher polyphenyls, partially hydrogenated	68956-74-1		<=18.0	%
terphenyl	26140-60-3		>=3.0 - <=8.0	%

4. FIRST AID MEASURES

If in eyes:	Immediately flush with plenty of water. If easy to do, remove any contact lenses. Get medical attention if irritation persists. Remove material from skin and clothing.
If on skin:	Immediately flush the area with plenty of water. Remove contaminated clothing. Wash skin gently with soap as soon as it is available. Get medical attention if irritation persists. Wash clothing before reuse.

If inhaled: Remove patient to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult give oxygen.
Remove material from eyes, skin and clothing.

If swallowed: Immediate first aid is not likely to be required.
A physician or Poison Control Center can be contacted for advice.
Wash heavily contaminated clothing before reuse.

5. FIRE FIGHTING MEASURES

Fire point: 212 C Cleveland Open Cup

Hazardous products of combustion: carbon dioxide; carbon monoxide (CO); soot; smoke; hydrocarbons

Extinguishing media: Water spray, foam, dry chemical, or carbon dioxide

Unusual fire and explosion hazards: None known

Fire fighting equipment: Firefighters, and others exposed, wear self-contained breathing apparatus.
Equipment should be thoroughly decontaminated after use.

Miscellaneous advice: This product is not classified as a fire-resistant heat transfer fluid.
Precautions to avoid sources of ignitions should be taken.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protection recommended in section 8.

Environmental precautions: Keep out of drains and water courses.

Methods for cleaning up: Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical waste container. Flush spill area with water.

Refer to Section 13 for disposal information and Sections 14 and 15 for reportable quantity information.

7. HANDLING AND STORAGE

Handling

Avoid contact with eyes, skin and clothing.
Avoid breathing vapour or mist.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.
Precautions against ignitions and fire should be taken with this product.
Heat transfer fluids are intended for INDIRECT heating purposes ONLY.
This product has not been approved for food grade use.

Emptied containers retain vapour and product residue. Observe all recommended safety precautions until container is cleaned, reconditioned or destroyed. Do not cut, drill, grind or weld on or near this container. The reuse of this material's container for non industrial purposes is prohibited and any reuse must be in consideration of the data provided in this material safety data sheet.

Storage

General: Stable under normal conditions of handling and storage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits: (ml/m³ = ppm)

THERMINOL® 66 No specific occupational exposure limit has been established.

terphenyl, hydrogenated ACGIH TLV: 0.5 ml/m³ ; 4.9 mg/m³ ; ; 8-hr TWA
Mexican OEL: 0.5 ml/m³ ; 5 mg/m³ ; ; 8-hr TWA
OSHA PEL: 0.5 ml/m³ ; 5 mg/m³ ; ; 8-hr TWA

terphenyl ACGIH TLV: 5 mg/m³ ; ; ceiling
OSHA PEL: 1 ml/m³ ; 9 mg/m³ ; ; ceiling
Mexican OEL: 0.5 ml/m³ ; ; ceiling

Eye protection: Wear chemical goggles.
Have eye flushing equipment available.

Hand protection: Wear chemical resistant gloves.
Consult the glove/clothing manufacturer to determine the appropriate type glove/clothing for a given application.

Body protection: Wear suitable protective clothing.
Consult the glove/clothing manufacturer to determine the appropriate type glove/clothing for a given application.
Wear full protective clothing if exposed to splashes.
Wash contaminated skin promptly.
Launder contaminated clothing and clean protective equipment before reuse.
Wash thoroughly after handling.

Respiratory protection: Avoid breathing vapour or mist.
Use approved respiratory protection equipment (full facepiece recommended) when airborne exposure limits are exceeded.
If used, full facepiece replaces the need for face shield and/or chemical goggles.
Consult the respirator manufacturer to determine the appropriate type of equipment for a given application.
Observe respirator use limitations specified by the manufacturer.

Ventilation: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits.
If practical, use local mechanical exhaust ventilation at sources of air contamination such as processing equipment.

Components referred to herein may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be used.

9. PHYSICAL AND CHEMICAL PROPERTIES

Flash point:	184 C	Cleveland Open Cup
	170 C	Pensky-Martens closed tester

Autoignition temperature:	373 C	ASTM E-659
Specific gravity:	1.003 - 1.013 @ 25 C	
Boiling point :	359 C @ 1,013 hPa	
Water solubility:	0.061 mg/l @ 20 C	

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

Conditions to avoid:	All sources of ignition.
Materials to avoid:	Contact with strong oxidizing agents.
Hazardous reactions:	Hazardous polymerization does not occur.
Hazardous decomposition products:	None known;

11. TOXICOLOGICAL INFORMATION

Results from Solutia sponsored studies or from the available public literature are described below.

Acute animal toxicity data

Oral:	LD50 , rat , > 10,000 mg/kg , Practically nontoxic following oral administration.
Dermal:	LD50 , rabbit , > 2,000 mg/kg , No more than slightly toxic
Inhalation:	LC50 , rat , > 4.7 mg/l , , The highest achievable concentration in this study.
Eye irritation:	rabbit , Practically non irritating to eyes (rabbit)., 24 h
Skin irritation:	rabbit , Practically non irritating to skin (rabbit)., 24 h
Skin sensitization:	Human experience , Predictive patch testing on human volunteers did not produce irritation or sensitization. Data obtained on similar product.
Repeat dose toxicity:	rabbit , 2,000 mg/kg , dermal , , Repeated skin exposure produced irritation in animal studies.
Repeat dose toxicity:	mouse , , inhalation , repeat dose , , Minor effects (less than lesions) were present in some animals at the end of the observation period. Data obtained on similar product.
Repeat dose toxicity:	rat , , inhalation , 13 weeks , , Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies.
Repeat dose toxicity:	mouse , , inhalation , 28 days , , No adverse treatment related effects. Data

obtained on similar product.

- Repeat dose toxicity: monkey & rat & hamster, , inhalation, 26 weeks, , Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies. Data obtained on similar product.
- Repeat dose toxicity: rat, 15 mg/kg, diet, 13 weeks, , Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies.
- Repeat dose toxicity: mouse, 250 mg/kg, gavage, subchronic, , Repeated oral administration caused kidney and liver effects. Data obtained on similar product.
- Developmental toxicity: rat, gavage, , Effects on offspring only observed with maternal toxicity.
- Carcinogenicity: mouse, dermal, chronic, No treatment-related effects were observed. Data obtained on similar product.
- Mutagenicity: No genetic effects were observed in standard tests using bacterial and animal cells.
No genetic effects were observed in standard tests using whole animals.

Components

Data from Solutia studies and/or the available scientific literature on the components of this material which have been identified as hazardous chemicals under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200) or the Canadian Hazardous Products Act are discussed below if present.

- terphenyl, hydrogenated Practically nontoxic following oral administration.
Practically nontoxic after skin application in animal studies.
Practically non irritating to eyes (rabbit).
Practically non irritating to skin (rabbit).
Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies.
No genetic effects were observed in standard tests using bacterial and animal cells.
- terphenyl Practically nontoxic to slightly toxic following oral administration.
Moderately toxic based on animal inhalation exposure studies.
Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies.
Produced no dermal sensitization (guinea pigs).

12. ECOLOGICAL INFORMATION

Environmental Toxicity

- Invertebrates 48 h, EC50 Water flea (*Daphnia magna*) >1.3 mg/l
EC50/LC50 greater than water solubility.
- Fish: 96 h, LC50 Rainbow trout (*Oncorhynchus mykiss*) > 1000 mg/l
EC50/LC50 greater than water solubility.
96 h, LC50 Bluegill sunfish (*Lepomis macrochirus*) > 100 mg/l

EC50/LC50 greater than water solubility.
96 h, LC50 Fathead minnow (*Pimephales promelas*) > 1000 mg/l
EC50/LC50 greater than water solubility.

Algae: 96 h, EC50 Algae (*Selenastrum capricornutum*) 44 mg/l
EC50/LC50 greater than water solubility.
96 h, EC50 Algae (*Selenastrum capricornutum*) 56 mg/l
EC50/LC50 greater than water solubility.

Biodegradation Modified SCAS Primary degradation 55.5 % 24 h

13. DISPOSAL CONSIDERATIONS

US EPA RCRA Status: 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(s) below.

US EPA RCRA D018 Compound/Characteristic: BENZENE
hazardous waste number:

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

Miscellaneous advice: 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.
Solutia operates a used fluid return program for certain fluids under these used oil standards. Contact your Sales Representative for details.
This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

US DOT

Other: Not regulated for transport.

Canadian TDG

Other: Not regulated for transport.

ICAO/IATA Class

Other: This material is not regulated under IATA or ICAO for air transportation.

15. REGULATORY INFORMATION

All components are in compliance with the following inventories: U.S. TSCA, EU EINECS, Canadian DSL, Australian AICS, Phillipine PICCS, Korean, New Zealand, Chinese

Canadian WHMIS classification: Not Controlled

SARA Hazard Notification:

Hazard Categories Under Title III Rules (40 CFR 370): Not applicable

Section 302 Extremely Hazardous Substances: Not applicable

Section 313 Toxic Chemical(s): Not applicable

CERCLA Reportable Quantity:

Not applicable

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation and the MSDS contains all the information required by the Canadian Controlled Products Regulation.

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) and Section 13 for RCRA classification.

Safety data sheet also created in accordance with Brazilian law NBR 14725

16. OTHER INFORMATION

Product use: Heat transferring agents

Reason for revision: Minor change in section 12

	Health	Fire	Reactivity	Additional Information
Suggested NFPA Rating	1	1	0	
Suggested HMIS Rating:	1	1	0	B

Prepared by the Solutia Hazard Communication Group. Please consult Solutia @ 314-674-6661 if further information is needed.

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