

# SAFETY DATA SHEET

**EASTMAN**

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878

## Therminol® 72 Heat Transfer Fluid

PRD / SDSEU / EN / 0001

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
8.2	09.07.2025	150000093443	Date of first issue: 18.09.2013

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : Therminol® 72 Heat Transfer Fluid

Product code : 34136-00, P3413603, P3413602, P3413600, P3413606, E3413601

Unique Formula Identifier (UFI) : 1U0T-4W99-8U0H-HCSW

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Heat transfer fluids

Recommended restrictions on use : None known.

#### 1.3 Details of the supplier of the safety data sheet

Company : Eastman Chemical Company  
200 South Wilcox Drive  
Kingsport TN 37660-5147

Telephone : +14232292000

E-mail address of person responsible for the SDS : Visit our website at [www.EASTMAN.com](http://www.EASTMAN.com) or email [emnmads@eastman.com](mailto:emnmads@eastman.com)

#### 1.4 Emergency telephone number

NCEC +44 (0)1235 239 670

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin sensitisation, Sub-category 1B	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 1B	H360FD: May damage fertility. May damage the unborn child.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters air-

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ways.

Short-term (acute) aquatic hazard, Category 1

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1

H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

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

Hazard pictograms :



Signal word : Danger

Hazard statements :

H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H360FD	May damage fertility. May damage the unborn child.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements :

**Prevention:**

P201	Obtain special instructions before use.
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.

#### Hazardous components which must be listed on the label:

Diphenyl oxide, Diphenyl ether  
o-Terphenyl  
Biphenyl; diphenyl

### 2.3 Other hazards

This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

##### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Diphenyl oxide, Diphenyl ether	101-84-8 202-981-2 01-2119472545-33-0001	Eye Irrit. 2; H319 Repr. 1B; H360Fd Aquatic Acute 1; H400 Aquatic Chronic 3; H412  M-Factor (Acute aquatic toxicity): 1	>= 30 - < 50
o-Terphenyl	84-15-1 201-517-6	Acute Tox. 4; H302 Acute Tox. 3; H331 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 25 - < 30
Biphenyl; diphenyl	92-52-4 202-163-5 601-042-00-8 01-2119480408-33-0004, 01-2119480408-33-0000	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 10 - < 20
m-Terphenyl	92-06-8 202-122-1	Aquatic Acute 1; H400 Aquatic Chronic 1;	>= 10 - < 20

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		H410	
vPvB substance :			
Phenanthrene (impurity)	85-01-8 201-581-5	Acute Tox. 4; H302	>= 1 - < 10

For explanation of abbreviations see section 16.

*Eastman is committed to the safety, health and environment of our employees, our customers, and the communities we operate within. As part of this commitment, Eastman's Safety Data Sheets (SDS) are prepared in accordance with all applicable national and local regulations. The compositions of our documents reflect these requirements which include, but are not limited to, requirements under the Globally Harmonized System of Classification and Labeling (GHS). These compositions commonly involve the use of ranges versus specific analytical values. If you require a composition that is more specific, please refer to the Certificate of Analysis, sales specification, or contact your Customer Service Representative.*

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- If inhaled : Remove person to fresh air and keep comfortable for breathing.  
If breathing is difficult, give oxygen.  
Consult a physician if necessary.
- In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.  
If skin irritation occurs: Get medical advice/ attention.  
Wash contaminated clothing before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
Get medical attention if symptoms occur.
- If swallowed : IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
Do NOT induce vomiting.  
Rinse mouth.  
Never give anything by mouth to an unconscious person.

#### 4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : The molten product can cause serious burns.
- Risks : May be fatal if swallowed and enters airways.  
May cause an allergic skin reaction.  
Harmful if inhaled.  
May cause respiratory irritation.  
May damage fertility. May damage the unborn child.

#### 4.3 Indication of any immediate medical attention and special treatment needed

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Treatment : Treat symptomatically.

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Foam

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

#### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products : Hazardous decomposition products due to incomplete combustion  
Carbon oxides

#### 5.3 Advice for firefighters

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

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.

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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Ventilate the area.  
Avoid breathing dust/ fume/ gas/ mist/ vapours/ 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.

#### 6.2 Environmental precautions

Environmental precautions : Clear up spills immediately and dispose of waste safely.  
Avoid release to the environment.  
Collect spillage.

#### 6.3 Methods and material for containment and cleaning up

Methods for 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).

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Prevent runoff from entering drains, sewers, or streams.

### 6.4 Reference to other sections

For personal protection see section 8.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Advice on safe handling : Do not breathe vapors or spray mist.  
Handle product only in closed system or provide appropriate exhaust ventilation at machinery.  
In case of insufficient ventilation, wear suitable respiratory equipment.  
Keep away from flames and sparks.  
Wear appropriate personal protective equipment.  
Avoid contact with skin, eyes and clothing.  
Wash thoroughly after handling.  
Wash contaminated clothing before reuse.  
Drain or remove substance from equipment prior to break-in or maintenance.  
Handle in accordance with good industrial hygiene and safety practice.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

### 7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Store locked up. Keep container tightly closed in a dry and well-ventilated place. Keep in a cool place away from oxidizing agents.

### 7.3 Specific end use(s)

- Specific use(s) : [www.therminol.com/products/](http://www.therminol.com/products/)

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
Diphenyl oxide, Diphenyl ether	Workers	Inhalation	Long-term systemic effects	1,8 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	7 mg/m <sup>3</sup>
	Workers	Inhalation	Acute local effects	14 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic	0,7 mg/kg

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			effects	bw/day
Biphenyl; diphenyl	Workers	Skin contact	Long-term exposure, Systemic effects	63 mg/kg bw/day
	Workers	Inhalation	Long-term exposure, Systemic effects	11,17 mg/m3
	General Popu- lation	Oral	Long-term exposure, Systemic effects	1,9 mg/kg bw/day
	General Popu- lation	Skin contact	Long-term exposure, Systemic effects	38 mg/kg bw/day
	General Popu- lation	Inhalation	Long-term exposure, Systemic effects	3,3 mg/m3

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
Diphenyl oxide, Diphenyl ether	Fresh water	0,0162 mg/l
	Marine water	0,00162 mg/l
	Aqua Intermittent	0,00455 mg/l
	Fresh water sediment	3,29 mg/kg dry weight (d.w.)
	Marine sediment	0,329 mg/kg dry weight (d.w.)
	Soil	0,648 mg/kg dry weight (d.w.)
	Sewage treatment plant	10 mg/l
Biphenyl; diphenyl	Fresh water	0,017 mg/l
	Marine water	0,0017 mg/l
	Aqua Intermittent	0,17 mg/l
	Fresh water sediment	2,69 mg/kg
	Remarks:dry	
	Marine sediment	0,269 mg/kg
	Remarks:dry	
	Soil	0,528 mg/kg
	Remarks:dry	
	Sewage treatment plant	10 mg/l

## 8.2 Exposure controls

### 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

Eye/face protection : Wear safety glasses with side shields (or goggles).

Hand protection

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

Skin and body protection : Wear suitable protective clothing.

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- 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.
- Protective measures : Ensure that eye flushing systems and safety showers are located close to the working place.
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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

- Physical state : liquid
- Colour : amber
- Odour : aromatic
- Odour Threshold : not determined
- Melting point/freezing point : -18 °C
- Boiling point/boiling range : 271 °C (1.013 hPa)
- Flammability : Not applicable
- Upper explosion limit / Upper flammability limit : 7 %(V)
- Lower explosion limit / Lower flammability limit : 1 %(V)
- Flash point : 132 °C  
Method: Cleveland open cup
- Auto-ignition temperature : not determined

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Decomposition temperature	:	not determined
pH	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	5,74 mm <sup>2</sup> /s (40 °C)
Solubility(ies)		
Water solubility	:	practically insoluble
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	< 0,01 hPa (20 °C)
		0,134 hPa (50 °C)
		623,5 kPa (380 °C)
Relative density	:	1,05 (25 °C)
Density	:	1.084 kg/m <sup>3</sup> (15 °C)
Relative vapour density	:	10

### 9.2 Other information

Explosives	:	Not classified
Oxidizing properties	:	Not classified
Self-ignition	:	585 °C
Evaporation rate	:	No data available

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

None reasonably foreseeable.

#### 10.2 Chemical stability

Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : None known.

#### 10.4 Conditions to avoid

Conditions to avoid : Heating in air.  
Keep away from flames and sparks.

#### 10.5 Incompatible materials

Materials to avoid : Strong oxidizing agents

#### 10.6 Hazardous decomposition products

Emits acrid smoke and fumes when heated to decomposition.

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### SECTION 11: Toxicological information

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

##### Acute toxicity

Harmful if inhaled.

##### Product:

Acute oral toxicity	:	LD50 Oral (Rat): > 2.000 mg/kg Assessment: May be harmful if swallowed.
Acute inhalation toxicity	:	LC50 (Expert judgement): 2,66 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: Harmful if inhaled.
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 2.000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Not classified

##### Components:

##### Diphenyl oxide, Diphenyl ether:

Acute oral toxicity	:	LD50 Oral (Rat, female): 2.830 mg/kg
Acute inhalation toxicity	:	LC50: Test atmosphere: vapour

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Remarks: No data available

Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 7.940 mg/kg

### **o-Terphenyl:**

Acute oral toxicity : Assessment: The component/mixture is minimally toxic after single ingestion.

### **Biphenyl; diphenyl:**

Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 3.980 mg/kg  
Method: Acute Dermal Toxicity  
Assessment: The substance or mixture has no acute dermal toxicity

### **Skin corrosion/irritation**

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

#### **Product:**

Species : Rabbit  
Assessment : Not classified  
Result : No skin irritation

#### **Components:**

##### **Diphenyl oxide, Diphenyl ether:**

Species : Rabbit  
Exposure time : 4 h  
Result : none

##### **Biphenyl; diphenyl:**

Species : Rabbit  
Result : slight  
  
Species : Humans  
Assessment : Irritating to skin.  
Result : strong

### **Serious eye damage/eye irritation**

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

#### **Product:**

Species : Rabbit  
Assessment : Not classified  
Result : No eye irritation

#### **Components:**

##### **Diphenyl oxide, Diphenyl ether:**

Species : Rabbit

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Exposure time : 4 h  
Assessment : irritating  
Result : corneal opacity  
  
Result : slight to moderate

### **Biphenyl; diphenyl:**

Species : Rabbit  
Result : slight irritation  
  
Species : Humans  
Assessment : Irritating to eyes.  
Result : strong

### **Respiratory or skin sensitisation**

#### **Skin sensitisation**

May cause an allergic skin reaction.

#### **Respiratory sensitisation**

Not classified due to lack of data.

### **Product:**

Test Type : OECD 429: LLNA  
Species : Guinea pig  
Method : OECD Test Guideline 429  
Result : Causes sensitization.

### **Components:**

#### **Diphenyl oxide, Diphenyl ether:**

Test Type : Skin Sensitization  
Species : Guinea pig  
Assessment : Not classified  
Method : OECD 406: Guinea pig sensitization  
Result : non-sensitizing

Test Type : Human experience  
Species : Humans  
Assessment : Not classified  
Method : Human Repeat Insult Patch Test  
Result : non-sensitizing

#### **Biphenyl; diphenyl:**

Test Type : OECD 406: Guinea pig sensitization  
Species : Guinea pig  
Assessment : Not classified  
Result : Does not cause skin sensitization.

### **Germ cell mutagenicity**

Not classified due to lack of data.

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### Components:

#### **Diphenyl oxide, Diphenyl ether:**

Genotoxicity in vitro : Test Type: Salmonella typhimurium assay (Ames test)  
Metabolic activation: +/- activation  
Method: Bacterial Reverse Mutation Assay  
Result: negative

Test Type: Mutagenicity - Mammalian  
Metabolic activation: +/- activation  
Method: In vitro Mammalian Cell Gene Mutation Test  
Result: negative

Test Type: Mutagenicity - Mammalian  
Metabolic activation: +/- activation  
Method: In vitro Mammalian Chromosome Aberration Test  
Result: negative

Test Type: Mutagenicity - Mammalian  
Metabolic activation: +/- activation  
Method: Genetic Toxicology: DNA Damage and Repair, Un-scheduled DNA Synthesis in Mammalian Cells In Vitro  
Result: negative

#### **Biphenyl; diphenyl:**

Genotoxicity in vitro : Test Type: Salmonella typhimurium assay (Ames test)  
Metabolic activation: +/- activation  
Method: Bacterial Reverse Mutation Assay  
Result: negative

Test Type: Mutagenicity - Mammalian  
Metabolic activation: + activation  
Method: In vitro Mammalian Cell Gene Mutation Test  
Result: positive

Test Type: Chromosome aberration test in vitro  
Metabolic activation: +/- activation  
Method: In vitro Mammalian Chromosome Aberration Test  
Result: negative

Test Type: Mutagenicity - Mammalian  
Method: Genetic Toxicology: DNA Damage and Repair, Un-scheduled DNA Synthesis in Mammalian Cells In Vitro  
Result: negative

Genotoxicity in vivo : Species: Mouse (male and female)  
Method: Mammalian Erythrocyte Micronucleus Test  
Result: negative

Species: Rat (male)  
Method: Mammalian Bone Marrow Chromosome Aberration Test  
Result: negative

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### Carcinogenicity

Not classified due to lack of data.

### Components:

#### Biphenyl; diphenyl:

Species	: Rat, male and female
Application Route	: Ingestion
Method	: OECD Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies
Remarks	: Expert judgement Not classified

### Reproductive toxicity

May damage fertility. May damage the unborn child.

### Product:

Effects on fertility	: Remarks: No data available
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### Components:

#### Biphenyl; diphenyl:

Effects on foetal development	: Species: Rabbit, female
	Application Route: Oral
	General Toxicity Maternal: NOAEL: 3.000 ppm
	Embryo-foetal toxicity: NOAEL: 8.000 ppm
Method: OECD Test Guideline 414	
Species: Rat	
Application Route: Oral	
General Toxicity Maternal: NOAEL: 500 mg/kg body weight	
Embryo-foetal toxicity: NOAEL: 1.000 mg/kg body weight	
Method: OECD Test Guideline 414	

### STOT - single exposure

May cause respiratory irritation.

### Product:

Exposure routes	: inhalation (dust/mist/fume)
Assessment	: May cause respiratory irritation.

### Components:

#### Diphenyl oxide, Diphenyl ether:

Exposure routes	: Inhalation
Assessment	: Based on available data, the classification criteria are not met.

#### Biphenyl; diphenyl:

Exposure routes	: Inhalation
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Target Organs : Respiratory system  
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

### STOT - repeated exposure

Not classified due to lack of data.

### Product:

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

### Components:

#### Diphenyl oxide, Diphenyl ether:

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

#### Biphenyl; diphenyl:

Target Organs : Kidney, Liver, Urinary bladder  
Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Components:

#### Diphenyl oxide, Diphenyl ether:

Species : Rat, male and female  
NOAEL : 301 mg/kg  
Application Route : Oral Study  
Exposure time : 90 days  
Remarks : (highest dose tested)

Species : Rat, male and female  
NOAEL : 1000 mg/kg  
Application Route : Dermal Study  
Exposure time : 90 days  
Remarks : (highest dose tested)

Species : Rat, male and female  
NOAEL : 139 mg/m<sup>3</sup>  
Application Route : inhalation (vapour)  
Exposure time : 28 days  
Remarks : (highest dose tested)

#### Biphenyl; diphenyl:

Species : Rat, male and female  
NOAEL : 39 mg/kg  
Application Route : in feed  
Exposure time : 2 year  
Method : OECD Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies

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Target Organs : Blood, Kidney, Liver

Species : Rabbit

NOAEL : > 2.000 mg/kg

Application Route : Dermal

Exposure time : 28 days

Remarks : No significant adverse effects were reported

### Aspiration toxicity

May be fatal if swallowed and enters airways.

#### Product:

May be fatal if swallowed and enters airways.

## 11.2 Information on other hazards

### Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### Experience with human exposure

#### Product:

Inhalation : Remarks: Harmful if inhaled.  
May cause respiratory irritation.

Skin contact : Remarks: May cause an allergic skin reaction.

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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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

#### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### **Components:**

#### **Diphenyl oxide, Diphenyl ether:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4,2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : LC50 (Daphnia magna (Water flea)): 1,7 mg/l  
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : EC50 (Pseudokirchneriella subcapitata (algae)): 0,455 mg/l  
plants Exposure time: 72 h

M-Factor (Acute aquatic tox- : 1  
icity)

#### **o-Terphenyl:**

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0,045 mg/l  
aquatic invertebrates Exposure time: 48 h

M-Factor (Acute aquatic tox- : 10  
icity)

M-Factor (Chronic aquatic : 10  
toxicity)

#### **Biphenyl; diphenyl:**

Toxicity to fish : EC50 (Pimephales promelas (fathead minnow)): 3 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0,36 mg/l  
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : EC50 (Chlorella pyrenoidosa (algae)): 1,3 mg/l  
plants Exposure time: 72 h

NOEC (Chlorella pyrenoidosa (algae)): 0,66 mg/l  
Exposure time: 72 h

M-Factor (Acute aquatic tox- : 1  
icity)

Toxicity to fish (Chronic tox- : NOEC: 0,229 mg/l  
icity) Exposure time: 96 d  
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other : NOEC: 0,17 mg/l  
aquatic invertebrates (Chron- Exposure time: 21 d  
ic toxicity) Species: Daphnia magna (Water flea)

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M-Factor (Chronic aquatic toxicity) : 1

### m-Terphenyl:

#### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

#### Product:

Biochemical Oxygen Demand (BOD) : Remarks: No data available

Chemical Oxygen Demand (COD) : Remarks: No data available

#### Components:

##### Diphenyl oxide, Diphenyl ether:

Biodegradability : Result: Readily biodegradable.  
Method: Ready Biodegradability: Modified MITI Test (I)

Biochemical Oxygen Demand (BOD) : Remarks: No data available

Chemical Oxygen Demand (COD) : Remarks: No data available

##### Biphenyl; diphenyl:

Biodegradability : Result: Readily biodegradable.  
Method: Ready Biodegradability: Modified MITI Test (I)

### 12.3 Bioaccumulative potential

#### Components:

##### Diphenyl oxide, Diphenyl ether:

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 49 - 594  
Method: OECD Test Guideline 305

Species: Oncorhynchus mykiss (rainbow trout)  
Bioconcentration factor (BCF): 196

##### Biphenyl; diphenyl:

Bioaccumulation : Bioconcentration factor (BCF): 1.900

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### 12.4 Mobility in soil

#### Components:

##### **Diphenyl oxide, Diphenyl ether:**

Distribution among environmental compartments : Koc: 1960, log Koc: 3,3

##### **Biphenyl; diphenyl:**

Distribution among environmental compartments : Medium: Soil  
Koc: 1546, log Koc: 3,19  
Method: OECD Test No. 106: Adsorption - Desorption Using a Batch Equilibrium Method

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

### 12.6 Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

ADN	: UN 3082
ADR	: UN 3082
IMDG	: UN 3082
IATA	: UN 3082

### 14.2 UN proper shipping name

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**ADN** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Diphenyl Ether, biphenyl)

**ADR** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Diphenyl Ether, biphenyl)

**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Diphenyl Ether, biphenyl, diphenyl)

**IATA** : Environmentally hazardous substance, liquid, n.o.s.  
(Diphenyl Ether, biphenyl)

### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
<b>ADN</b>	: 9	
<b>ADR</b>	: 9	
<b>IMDG</b>	: 9	
<b>IATA</b>	: 9	

### 14.4 Packing group

**ADN**  
Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9

**ADR**  
Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9  
Tunnel restriction code : (-)  
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

**IMDG**  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

### IATA (Cargo)

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Packing instruction (cargo aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous  
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

### IATA (Passenger)

Packing instruction (passenger aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous  
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous : yes

#### ADR

Environmentally hazardous : yes

#### IMDG

Marine pollutant : yes

### 14.6 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.

### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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## SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Number on list 3

REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59). : Phenanthrene (impurity)

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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Phenanthrene (impurity)

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. E1 ENVIRONMENTAL HAZARDS

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Not applicable

### Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

### 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
AIC	: 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
TECI	: Not in compliance with the inventory

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### 15.2 Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

Diphenyl Ether

biphenyl

Reaction mass of m-terphenyl and o-terphenyl

### SECTION 16: Other information

#### Full text of H-Statements

H302	: Harmful if swallowed.
H315	: Causes skin irritation.
H319	: Causes serious eye irritation.
H331	: Toxic if inhaled.
H335	: May cause respiratory irritation.
H360Fd	: May damage fertility. Suspected of damaging the unborn child.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Irrit.	: Eye irritation
Repr.	: Reproductive toxicity
Skin Irrit.	: Skin irritation
STOT SE	: Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office

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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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

Sources of key data used to : [www.therminol.com/products/](http://www.therminol.com/products/)  
compile the Safety Data  
Sheet

### Classification of the mixture:

Acute Tox. 4	H332
Skin Sens. 1B	H317
Repr. 1B	H360FD
STOT SE 3	H335
Asp. Tox. 1	H304
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment

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