



# SAFETY DATA SHEET

DOW BENELUX B.V.

Safety Data Sheet according to Reg. (EU) 2020/878

**Product name: DOWTHERM™ G Heat Transfer Fluid**

**Revision Date:** 15.05.2025

**Version:** 16.0

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DOW BENELUX B.V. encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

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### 1.1 Product identifier

**Product name:** DOWTHERM™ G Heat Transfer Fluid

**UFI:** 3MGR-C121-9001-SC58

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

**Identified uses:** Intended as a heat transfer fluid for closed-loop systems. For industrial use only. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

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

#### COMPANY IDENTIFICATION

DOW BENELUX B.V.

HERBERT H.DOWWEG 5

HOEK

4542 NM TERNEUZEN

NETHERLANDS

**Customer Information Number:**

(31) 115 67 2626

SDSQuestion@dow.com

### 1.4 EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 31-(0)115 694982

**Local Emergency Contact:** 00 31 115 69 4982

**The phone number of the national poisoning information center (NVIC). Only for the purpose of informing medical personnel in case of acute intoxications:** 088 755 8000

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## SECTION 2: HAZARDS IDENTIFICATION

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### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008:**

Eye irritation - Category 2 - H319

Skin sensitisation - Category 1 - H317

Reproductive toxicity - Category 1B - H360Fd

|| Endocrine disruptor for human health - Category 1 - EUH380

- || Short-term (acute) aquatic hazard - Category 1 - H400
- Long-term (chronic) aquatic hazard - Category 1 - H410
- || Persistent, bioaccumulative and toxic - EUH440
- || For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 Label elements

### Labelling according to Regulation (EC) No 1272/2008:

#### Hazard pictograms



### || Signal word: DANGER

#### Hazard statements

- || H317 May cause an allergic skin reaction.
- || H319 Causes serious eye irritation.
- || H360Fd May damage fertility. Suspected of damaging the unborn child.
- || H410 Very toxic to aquatic life with long lasting effects.
- || EUH380 May cause endocrine disruption in humans
- || EUH440 Accumulates in the environment and living organisms including in humans

#### Precautionary statements

- || P201 Obtain special instructions before use.
- || P202 Do not handle until all safety precautions have been read and understood.
- || P263 Avoid contact during pregnancy and while nursing.
- || P273 Avoid release to the environment.
- || P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
- || P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- || P391 Collect spillage.
- || P405 Store locked up.
- || P501 Dispose of contents and container in accordance with local regulations.

**Contains** Diphenyl oxide

## 2.3 Other hazards

This product contains 1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene that has been identified as a PBT substance.

#### Endocrine disrupting properties

- Human Health: Diphenyl oxide; - This substance/mixture contains components considered to have endocrine disrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.
- Environment: 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, Commission Regulation (EU) 2018/605 or Regulation (EC) 1272/2008 at levels of 0.1% or higher.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
<b>CASRN</b> 101-84-8 <b>EC-No.</b> 202-981-2 <b>Index-No.</b> -	01-2119472545-33	40,0%	Diphenyl oxide	Eye Irrit. 2; H319 Skin Sens. 1B; H317 Repr. 1B; H360Fd ED HH 1; EUH380 Aquatic Acute 1; H400 Aquatic Chronic 3; H412  M-Factor (Acute aquatic toxicity): 1  Acute toxicity estimate Acute oral toxicity: 2 830 mg/kg Acute dermal toxicity: > 7 940 mg/kg
<b>CASRN</b> 6196-98-1 <b>EC-No.</b> 400-370-7 <b>Index-No.</b> -	01-0000015033-84	60,0%	1,2,3,4-Tetrahydro- 6-(1- phenylethyl)naphth alene	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 PBTEUH440  M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10  Acute toxicity estimate Acute oral toxicity: > 2 000 mg/kg Acute dermal toxicity: > 2 000 mg/kg

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**Skin contact:** Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation or rash occurs. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

**Eye contact:** Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

**Ingestion:** Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

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

May cause an allergic skin reaction. Causes serious eye irritation. May damage fertility. Suspected of damaging the unborn child. May cause endocrine disruption in humans

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

**Notes to physician:** If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. Maintain adequate ventilation and oxygenation of the patient. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## **SECTION 5: FIREFIGHTING MEASURES**

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### **5.1 Extinguishing media**

**Suitable extinguishing media:** Water fog or fine spray.. Dry chemical fire extinguishers.. Carbon dioxide fire extinguishers.. Foam.. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.. Water fog, applied gently may be used as a blanket for fire extinguishment..

**Unsuitable extinguishing media:** Do not use direct water stream.. May spread fire..

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

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.. Combustion products may include and are not limited to:. Carbon monoxide.. Carbon dioxide.. Carbon oxides.

**Unusual Fire and Explosion Hazards:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.. Liquid mist of this product can burn.. Flammable concentrations of vapor can accumulate at temperatures above flash point; see Section 9.. Dense smoke is produced when product burns..

### 5.3 Advice for firefighters

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry.. Do not use direct water stream. May spread fire.. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.. Water fog, applied gently may be used as a blanket for fire extinguishment.. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS..

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).. Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location.. For protective equipment in post-fire or non-fire clean-up situations, see Section 8 of the safety data sheet..

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**6.1 Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**6.2 Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

**6.3 Methods and materials for containment and cleaning up:** Small spills: Non-combustible material. Large spills: Contain spilled material if possible. Dike area to contain spill. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

**6.4 Reference to other sections:** References to other sections, if applicable, have been provided in the previous sub-sections.

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## SECTION 7: HANDLING AND STORAGE

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**7.1 Precautions for safe handling:** Avoid contact with eyes, skin, and clothing. Do not swallow. Avoid breathing vapor. Use with adequate ventilation. Keep container closed. Wash thoroughly after handling. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

**7.2 Conditions for safe storage, including any incompatibilities:** Do not store in: Opened or unlabeled containers. Store in tightly closed container. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact. Store away from incompatible materials. See STABILITY AND REACTIVITY section. See Section 10 for more specific information.

#### Storage stability

**Shelf life:** Use within 60 Month

**7.3 Specific end use(s):** See the technical data sheet on this product for further information.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Diphenyl oxide	ACGIH	TWA Vapour	1 ppm
	ACGIH	STEL Vapour	2 ppm
	Dow IHG	TWA	0,5 ppm
	2017/164/EU	STEL	14 mg/m3 2 ppm
	Further information: Indicative		
	2017/164/EU	TWA	7 mg/m3 1 ppm
	Further information: Indicative		
	NL WG	TLV-8hr	7 mg/m3 1 ppm
	NL WG	TLV-15 min	14 mg/m3 2 ppm

### Recommended monitoring procedures

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with the Occupational Exposure Limits and the adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples should be analysed by an accredited laboratory.

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy); European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents); European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

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

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods.

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods.

Health and Safety Executive (HSE), United Kingdom: Methods for the Determination of Hazardous Substances.

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany.

L'Institut National de Recherche et de Sécurité, (INRS), France.

**Derived No Effect Level**

Diphenyl oxide

**Workers**

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	14 mg/m3	0,7 mg/kg bw/day	1,8 mg/m3	n.a.	7 mg/m3

**Consumers**

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

**Predicted No Effect Concentration**

Diphenyl oxide

<b>Compartment</b>	<b>PNEC</b>
Fresh water	0,0162 mg/l
Intermittent use/release	0,00455 mg/l
Marine water	0,00162 mg/l
Sewage treatment plant	10 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.)

**8.2 Exposure controls**

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

**Individual protection measures**

**Eye/face protection:** Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

**Skin protection**

**Hand protection:** Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly

dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2 (meeting standard EN 14387).

#### Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	Liquid.
Color	Colorless to brown
Odor	Aromatic
Odor Threshold	No test data available
pH	Not applicable, substance/mixture is non-polar/aprotic
Melting point/freezing point	
Melting point/ range	Not applicable to liquids
Freezing point	Not applicable
Boiling point or initial boiling point and boiling range	
Boiling point (760 mmHg)	288,3 °C <i>Literature</i> reflux
Flash point	<b>closed cup</b> 130 °C <i>Setaflash Closed Cup ASTM D3828</i>
Flammability (solid, gas)	Not applicable to liquids
Flammability (liquids)	Not expected to be a static-accumulating flammable liquid.
Lower explosion limit	0,5 % vol <i>Literature</i>
Upper explosion limit	6,3 % vol <i>Literature</i>
Vapor Pressure	<= 1 mmHg at 20 °C <i>Literature</i>

Relative Vapor Density (air = 1)	>=1 <i>Literature</i>
Relative Density (water = 1)	1,03 - 1,20 at 25 °C / 25 °C <i>Literature</i>
Solubility(ies)	
Water solubility	<= 0,012 g/L at 25 °C <i>Literature</i>
Partition coefficient: n-octanol/water	not determined
Auto-ignition temperature	432 °C <i>Literature</i>
Decomposition temperature	No test data available
Kinematic Viscosity	9,74 cSt at 25 °C <i>Literature</i>
Particle characteristics	
Particle size	Not applicable, liquid

## 9.2 Other information

Molecular weight	205 g/mol <i>Literature</i>
Explosive properties	No data available
Oxidizing properties	No data available
Evaporation Rate (Butyl Acetate = 1)	< 0,1 <i>Estimated.</i>

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## SECTION 10: STABILITY AND REACTIVITY

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**10.1 Reactivity:** No data available

**10.2 Chemical stability:** Thermally stable at typical use temperatures.

**10.3 Possibility of hazardous reactions:** Polymerization will not occur.

**10.4 Conditions to avoid:** Exposure to elevated temperatures can cause product to decompose.

**10.5 Incompatible materials:** Avoid contact with oxidizing materials.

**10.6 Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials.. Decomposition products can include trace amounts of: Phenol..

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## SECTION 11: TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data are available.*

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

#### Information on likely routes of exposure

Ingestion, Inhalation, Skin contact, Eye contact.

**Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)**

**Acute Toxicity Endpoints:**

**Acute oral toxicity**

**Information for the Product:**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Based on information for component(s):  
LD50, Rat, > 5 000 mg/kg Estimated.

**Information for components:**

**Diphenyl oxide**

LD50, Rat, female, 2 830 mg/kg

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

LD50, Rat, > 2 000 mg/kg No deaths occurred at this concentration.

**Acute dermal toxicity**

**Information for the Product:**

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Based on information for component(s):  
LD50, Rabbit, > 2 000 mg/kg No deaths occurred at this concentration.

**Information for components:**

**Diphenyl oxide**

LD50, Rabbit, male and female, > 7 940 mg/kg

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

LD50, Rabbit, > 2 000 mg/kg No deaths occurred at this concentration.

**Acute inhalation toxicity**

**Information for the Product:**

At room temperature, exposure to vapor is minimal due to low volatility. If material is heated or aerosol/mist is produced, concentrations may be attained that are sufficient to cause respiratory irritation and other effects. May cause central nervous system effects. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.

As product: The LC50 has not been determined.

**Information for components:**

**Diphenyl oxide**

As product: The LC50 has not been determined.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

The LC50 has not been determined.

**Skin corrosion/irritation**

**Information for the Product:**

Based on information for component(s):

Brief contact may cause slight skin irritation with local redness.

Prolonged contact may cause skin irritation with local redness.

Repeated exposure may cause irritation, even a burn.

May cause more severe response on covered skin (under clothing, gloves).

**Information for components:**

**Diphenyl oxide**

Brief contact may cause slight skin irritation with local redness.

Prolonged contact may cause moderate skin irritation with local redness.

May cause more severe response on covered skin (under clothing, gloves).

Repeated exposure may cause irritation, even a burn.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause skin irritation with local redness.

Repeated exposure may cause irritation, even a burn.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Information for the Product:**

Based on information for component(s):

May cause moderate eye irritation.

May cause slight corneal injury.

**Information for components:**

**Diphenyl oxide**

May cause moderate eye irritation.

May cause slight corneal injury.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

May cause moderate eye irritation.

Corneal injury is unlikely.

**Sensitization**

**For skin sensitization:**

May cause an allergic skin reaction.

**Information for the Product:**

For skin sensitization:

Based on information for component(s):

Skin contact may cause an allergic skin reaction.

For respiratory sensitization:

No relevant information found.

**Information for components:**

**Diphenyl oxide**

Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

**Information for the Product:**

Product test data not available.

**Information for components:**

**Diphenyl oxide**

Available data are inadequate to determine single exposure specific target organ toxicity.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Aspiration Hazard**

**Information for the Product:**

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

**Information for components:**

**Diphenyl oxide**

Based on physical properties, not likely to be an aspiration hazard.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

Based on physical properties, not likely to be an aspiration hazard.

**Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)**

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

**Information for the Product:**

Product test data not available.

**Information for components:**

**Diphenyl oxide**

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

Repeated skin application to laboratory animals did not produce systemic toxicity.

**Carcinogenicity**

**Information for the Product:**

Product test data not available.

**Information for components:**

**Diphenyl oxide**

No relevant data found.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

No relevant data found.

**Teratogenicity**

May damage fertility. Suspected of damaging the unborn child.

**Information for the Product:**

Product test data not available.

**Information for components:**

**Diphenyl oxide**

Has been toxic to the fetus in lab animals at doses nontoxic to the mother.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

### Reproductive toxicity

May damage fertility. Suspected of damaging the unborn child.

#### Information for the Product:

Product test data not available.

#### Information for components:

##### Diphenyl oxide

In animal studies, has been shown to interfere with fertility in females.

##### 1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene

In animal studies, did not interfere with reproduction.

### Mutagenicity

#### Information for the Product:

Product test data not available.

#### Information for components:

##### Diphenyl oxide

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

##### 1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene

In vitro genetic toxicity studies were negative.

### 11.2 Information on other hazards

#### Endocrine disrupting properties

May cause endocrine disruption in humans

This substance/mixture contains components considered to have endocrine disrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

#### Information for components:

##### Diphenyl oxide

Substance is a known or presumed endocrine disruptor for human health.

##### 1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene

Substance does not have endocrine disrupting properties.

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## SECTION 12: ECOLOGICAL INFORMATION

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*Ecotoxicological information appears in this section when such data are available.*

## 12.1 Toxicity

### Diphenyl oxide

#### **Acute toxicity to fish**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 4,2 mg/l, OECD Test Guideline 203 or Equivalent

#### **Acute toxicity to aquatic invertebrates**

LC50, Daphnia magna (Water flea), static test, 48 Hour, 1,7 mg/l, OECD Test Guideline 202 or Equivalent

#### **Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (algae), static test, 72 Hour, Growth rate, 0,455 mg/l, OECD Test Guideline 201 or Equivalent

NOEC, Pseudokirchneriella subcapitata (algae), static test, 72 Hour, Growth rate, 0,24 mg/l, OECD Test Guideline 201 or Equivalent

### 1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene

#### **Acute toxicity to aquatic invertebrates**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

EC50, Daphnia magna (Water flea), Static, 48 Hour, 0,107 mg/l, OECD Test Guideline 202

#### **Acute toxicity to algae/aquatic plants**

EbC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Biomass, > 0,07 mg/l

#### **Toxicity to bacteria**

EC50, activated sludge, 3 Hour, 0,062 mg/l, OECD 209 Test

## 12.2 Persistence and degradability

### Diphenyl oxide

**Biodegradability:** Material is expected to be readily biodegradable.

**Biodegradation:** 76 %

**Exposure time:** 20 d

**Method:** OECD Test Guideline 301D or Equivalent

**Theoretical Oxygen Demand:** 2,63 mg/mg

#### **Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	64 %
10 d	76 %
20 d	76 %

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. Material has inherent, primary biodegradability according to OECD test (s) guidelines (reaches > 20% biodegradation in OECD test(s)).

10-day Window: Fail

**Biodegradation:** 6 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

10-day Window: Not applicable

**Biodegradation:** > 40 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 302B or Equivalent

**12.3 Bioaccumulative potential**

**Bioaccumulation:** No data available.

**12.4 Mobility in soil****Diphenyl oxide**

**Partition coefficient (Koc):** 1968 Measured

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

**Partition coefficient (Koc):** > 5000 Estimated.

**12.5 Results of PBT and vPvB assessment****Diphenyl oxide**

Substance is not persistent, bioaccumulative, and toxic (PBT). Substance is not very persistent and very bioaccumulative (vPvB).

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

Substance is persistent, bioaccumulative, and toxic (PBT).

**12.6 Endocrine disrupting properties** 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, Commission Regulation (EU) 2018/605 or Regulation (EC) 1272/2008 at levels of 0.1% or higher.

**Diphenyl oxide**

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

**1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

**12.7 Other adverse effects****Diphenyl oxide**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **1,2,3,4-Tetrahydro-6-(1-phenylethyl)naphthalene**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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### **SECTION 13: DISPOSAL CONSIDERATIONS**

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#### **13.1 Waste treatment methods**

This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC, provided it fulfils the criteria listed in Annex III of this directive. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

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### **SECTION 14: TRANSPORT INFORMATION**

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#### **Classification for ROAD and Rail transport (ADR/RID):**

- |  |  |
|--|--|
| <b>14.1 UN number or ID number</b>       | UN 3082  |
| <b>14.2 UN proper shipping name</b>      | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Diphenyl oxide, 1,2,3,4-Tetrahydro-5-(1-phenylethyl)naphthalene) |
| <b>14.3 Transport hazard class(es)</b>   | 9  |
| <b>14.4 Packing group</b>                | III  |
| <b>14.5 Environmental hazards</b>        | Diphenyl oxide, 1,2,3,4-Tetrahydro-5-(1-phenylethyl)naphthalene  |
| <b>14.6 Special precautions for user</b> | Hazard Identification Number: 90   |

#### **Classification for INLAND waterways (ADNR/ADN):**

**Consult your Dow contact before transporting by inland waterway**

#### **Classification for SEA transport (IMO-IMDG):**

- |  |  |
|--|--|
| <b>14.1 UN number or ID number</b>     | UN 3082  |
| <b>14.2 UN proper shipping name</b>    | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Diphenyl oxide, 1,2,3,4-Tetrahydro-5-(1-phenylethyl)naphthalene) |
| <b>14.3 Transport hazard class(es)</b> | 9  |
| <b>14.4 Packing group</b>              | III  |
| <b>14.5 Environmental hazards</b>      | Diphenyl oxide, 1,2,3,4-Tetrahydro-5-(1-phenylethyl)naphthalene  |

- 14.6 **Special precautions for user** EmS: F-A, S-F
- 14.7 **Maritime transport in bulk according to IMO instruments** Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

- 14.1 **UN number or ID number** UN 3082
- 14.2 **UN proper shipping name** Environmentally hazardous substance, liquid, n.o.s.(Diphenyl oxide, 1,2,3,4-Tetrahydro-5-(1-phenylethyl)naphthalene)
- 14.3 **Transport hazard class(es)** 9
- 14.4 **Packing group** III
- 14.5 **Environmental hazards** Not applicable
- 14.6 **Special precautions for user** No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## SECTION 15: REGULATORY INFORMATION

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

#### REACH Regulation (EC) No 1907/2006

This product contains only components that have been either registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

#### 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, 75

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

Listed in Regulation: ENVIRONMENTAL HAZARDS  
Number in Regulation: E1

100 t  
200 t

ABM (Algemene Beoordelingsmethodiek): Please contact our product stewardship specialist via the Customer Information contact details in Section 1 for information on the assessment of substances and preparations within the context of the implementation of the water discharge policy.

#### Further information

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.

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

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## SECTION 16: OTHER INFORMATION

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#### Full text of H-Statements referred to under sections 2 and 3.

EUH380	May cause endocrine disruption in humans
EUH440	Accumulates in the environment and living organisms including in humans
H317	May cause an allergic skin reaction.
H319	Causes serious eye 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.

#### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Eye Irrit. - 2 - H319 - Calculation method

Skin Sens. - 1 - H317 - Calculation method

Repr. - 1B - H360Fd - Calculation method

|| ED HH - 1 - EUH380 - Calculation method

Aquatic Acute - 1 - H400 - Calculation method

Aquatic Chronic - 1 - H410 - Calculation method

|| PBT - EUH440 - Calculation method

#### Revision

Identification Number: 128348 / A281 / Issue Date: 15.05.2025 / Version: 16.0

In case this version of the SDS contains significant changes from the previous version, they are listed below or noted by bold, double bars in the left-hand margin throughout this document.

Changes encompass identification, hazards, tox/eco-tox information and the addition/removal of the ingredients, and regulatory information, hazard information, uses, risk management measures and other key regulatory changes of the product. Detailed explanation of the changes can be obtained upon request.

**Legend**

2017/164/EU	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
NL WG	Netherlands. Law on Labour conditions - Occupational Exposure Limits
STEL	Short term exposure limit
TLV-15 min	Short Term Exposure Limit
TLV-8hr	Time Weighted Average
TWA	8-hour, time-weighted average
Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
ED HH	Endocrine disruptor for human health
Eye Irrit.	Eye irritation
PBT	Persistent, bioaccumulative and toxic
Repr.	Reproductive toxicity
Skin Sens.	Skin sensitisation

**Full text of other abbreviations**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - 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 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

**Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW BENELUX B.V. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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