

# Diphenyl ether/Biphenyl Mix

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 24/08/2018

Revision date:

Version: 1.0

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : Diphenyl ether/Biphenyl Mix  
Product code : AL0-130487  
Product group : Trade product

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

##### 1.2.1. Relevant identified uses

Main use category : Laboratory Use  
Industrial/Professional use spec : Industrial  
For professional use only  
Use of the substance/mixture : Certified reference material for laboratory use only

##### 1.2.2. Uses advised against

No additional information available

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

Phenova  
6390 Joyce Dr. Suite 100  
80403 Golden, CO - United States  
T 1-866-942-2978 - F 1-866-283-0269  
[info@phenova.com](mailto:info@phenova.com) - [www.phenova.com](http://www.phenova.com)

#### 1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924  
ChemTel Assistance (International) +1 813-248-0585

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carc. 2 H351  
Aquatic Chronic 3 H412

##### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.3; R40  
R52/53

Full text of R-phrases: see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) : Warning  
Hazard statements (CLP) : H351 - Suspected of causing cancer  
H412 - Harmful to aquatic life with long lasting effects  
Precautionary statements (CLP) : P403+P235 - Store in a well-ventilated place. Keep cool  
P273 - Avoid release to the environment  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P308+P313 - IF exposed or concerned: Get medical advice/attention

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P370+P378 - In case of fire: Use media other than water to extinguish  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

No labeling applicable

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Methylene Chloride (Component)	(CAS No) 75-09-2 (EC-No.) 200-838-9 (EC index no) 602-004-00-3	99.6	Carc. 2, H351
Diphenyl Ether (Component)	(CAS No) 101-84-8 (EC-No.) 202-981-2	0.2	STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
diphenyl (Component)	(CAS No) 92-52-4 (EC-No.) 202-163-5 (EC index no) 601-042-00-8	0.2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

No additional information available

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.

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

No additional information available

### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

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

Methods for cleaning up : Take up in absorbent material. Collect spillage.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

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

Storage conditions : Keep container closed when not in use. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.

Incompatible materials : Direct sunlight.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Diphenyl Ether (101-84-8)		
Belgium	Limit value (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup> (Oxyde de diphényle (vapeur); Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	1 ppm (Oxyde de diphényle (vapeur); Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup> (Oxyde de diphényle (vapeur); Belgium; Short time value)
Belgium	Short time value (ppm)	2 ppm (Oxyde de diphényle (vapeur); Belgium; Short time value)
France	VME (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup> (Oxyde de biphényle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
France	VME (ppm)	1 ppm (Oxyde de biphényle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	1 ppm (Phenyl ether vapor; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	2 ppm (Phenyl ether vapor; USA; Short time value; TLV - Adopted Value)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	7.1 mg/m <sup>3</sup> Diphenyl ether (vapour); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	1 ppm Diphenyl ether (vapour); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
diphenyl (92-52-4)		
Belgium	Limit value (mg/m <sup>3</sup> )	1.3 mg/m <sup>3</sup> (Biphényle; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	0.2 ppm (Biphényle; Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m <sup>3</sup> )	1.5 mg/m <sup>3</sup> (Biphényle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
France	VME (ppm)	0.2 ppm (Biphényle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	0.2 ppm (Biphenyl; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Methylene Chloride (75-09-2)		
Belgium	Limit value (mg/m <sup>3</sup> )	177 mg/m <sup>3</sup> (Chlorure de méthylène; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	50 ppm (Chlorure de méthylène; Belgium; Time-weighted average exposure limit 8 h)

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Methylene Chloride (75-09-2)		
France	VLE (mg/m <sup>3</sup> )	356 mg/m <sup>3</sup> (Dichlorométhane; France; Short time value; VRC: Valeur réglementaire contraignante)
France	VLE (ppm)	100 ppm (Dichlorométhane; France; Short time value; VRC: Valeur réglementaire contraignante)
France	VME (mg/m <sup>3</sup> )	178 mg/m <sup>3</sup> (Dichlorométhane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	50 ppm (Dichlorométhane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50 ppm (Dichloromethane (Methylene chloride); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup> Dichloromethane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	100 ppm Dichloromethane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	1060 mg/m <sup>3</sup> Dichloromethane; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (ppm)	300 ppm Dichloromethane; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)

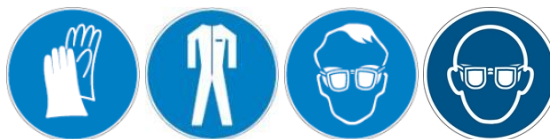
### 8.2. Exposure controls

Appropriate engineering controls

: Either local exhaust or general room ventilation is usually required.

Personal protective equipment

: Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.



Hand protection

: Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration.

Eye protection

: Chemical goggles or safety glasses. Safety glasses.

Skin and body protection

: Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact.

Respiratory protection

: Wear appropriate mask.

Other information

: Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Color	: Colorless.
Odor	: characteristic.
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Relative density	: No data available
Solubility	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Not established.

#### 10.3. Possibility of hazardous reactions

Not established.

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

No additional information available

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Diphenyl Ether (101-84-8)	
LD50 oral rat	3370 mg/kg (Rat)
LD50 dermal rat	4000 mg/kg (Rat)
LD50 dermal rabbit	> 7940 mg/kg (Rabbit)
ATE CLP (oral)	3370 mg/kg body weight
ATE CLP (dermal)	4000 mg/kg body weight
diphenyl (92-52-4)	
LD50 oral rat	3280 mg/kg (Rat)
LD50 dermal rabbit	2500 mg/kg (Rabbit)
ATE CLP (oral)	3280 mg/kg body weight
ATE CLP (dermal)	2500 mg/kg body weight
Methylene Chloride (75-09-2)	
LD50 oral rat	> 2000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Literature study)

Skin corrosion/irritation	: Not classified Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified Based on available data, the classification criteria are not met
Respiratory or skin sensitization	: Not classified Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Suspected of causing cancer. May cause cancer
Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity – single exposure	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity – repeated exposure	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.

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<b>Diphenyl Ether (101-84-8)</b>	
LC50 fish 1	1.7 mg/l (LC50; 96 h; <i>Lepomis macrochirus</i> )
EC50 Daphnia 1	0.68 mg/l (EC50; 48 h)
Threshold limit algae 1	1.7 mg/l (EC50; 96 h)
<b>diphenyl (92-52-4)</b>	
LC50 fish 1	1.5 mg/l (LC50; 96 h; <i>Salmo gairdneri</i> )
EC50 Daphnia 2	0.36 mg/l (LC50; 48 h)
Threshold limit algae 2	1.28 mg/l (EC50; 3 h)
<b>Methylene Chloride (75-09-2)</b>	
LC50 fish 1	193 mg/l (LC50; 96 h; <i>Pimephales promelas</i> )
EC50 Daphnia 1	168.2 mg/l (EC50; 48 h)

### 12.2. Persistence and degradability

<b>Diphenyl ether/Biphenyl Mix</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>Diphenyl Ether (101-84-8)</b>	
Persistence and degradability	Readily biodegradable in water. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	1.68 - 2.0 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.19 - 2.5 g O <sub>2</sub> /g substance
ThOD	2.63 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.72
<b>diphenyl (92-52-4)</b>	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water.
Biochemical oxygen demand (BOD)	1.08 g O <sub>2</sub> /g substance
ThOD	3.01 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.36
<b>Methylene Chloride (75-09-2)</b>	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil.

### 12.3. Bioaccumulative potential

<b>Diphenyl ether/Biphenyl Mix</b>	
Bioaccumulative potential	Not established.
<b>Diphenyl Ether (101-84-8)</b>	
BCF fish 1	49 - 594 (BCF)
BCF fish 2	195 - 470 (BCF; 168 h)
Log Pow	4.2
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).
<b>diphenyl (92-52-4)</b>	
BCF fish 1	437 (BCF)
BCF other aquatic organisms 1	540 (BCF; 24 h; <i>Chlorella</i> sp.)
Log Pow	3.16 - 4.09
Bioaccumulative potential	Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).
<b>Methylene Chloride (75-09-2)</b>	
BCF fish 1	2 - 40 (BCF)
Log Pow	1.25 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

<b>Diphenyl Ether (101-84-8)</b>	
Surface tension	0.04 N/m (30 °C)
<b>Methylene Chloride (75-09-2)</b>	
Surface tension	0.028 N/m (20 °C)
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Additional information : Avoid release to the environment

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR) : 2810  
UN-No. (IATA) : 2810  
UN-No. (IMDG) : 2810  
UN-No. (ADN) : 2810

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : TOXIC LIQUID, ORGANIC, N.O.S.  
Proper Shipping Name (IATA) : Toxic liquid, organic, n.o.s.  
Proper Shipping Name (IMDG) : TOXIC LIQUID, ORGANIC, N.O.S.  
Proper Shipping Name (ADN) : TOXIC LIQUID, ORGANIC, N.O.S.  
Transport document description (ADR) : UN 2810 TOXIC LIQUID, ORGANIC, N.O.S., 6.1, III, (E)

#### 14.3. Packing group

Class (ADR) : 6.1  
Classification code (ADR) : T1  
Class (IATA) : 6.1  
Class (IMDG) : 6.1  
Class (ADN) : 6.1  
Classification code (ADN) : T1  
Hazard labels (ADR) : 6.1



Division (IATA) : 6.1  
Hazard labels (IATA) : 6.1



Hazard labels (IMDG) : 6.1



Hazard labels (ADN) : 6.1



#### 14.4. Packing group

Packing group (ADR) : III  
Packing group (IATA) : III  
Packing group (IMDG) : III  
Packing group (ADN) : III

#### 14.5. Environmental hazards

Other information : No supplementary information available.

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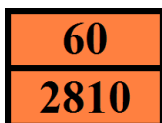
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### 14.6. Special precautions for user

#### 14.6.1. Overland transport

Hazard identification number (Kemler No.) : 60  
Classification code (ADR) : T1  
Orange plates :



Special provision (ADR) : 274, 614  
Transport category (ADR) : 2  
Tunnel restriction code (ADR) : E  
Limited quantities (ADR) : 5l  
Excepted quantities (ADR) : E1  
EAC : 2X  
APP : B

#### 14.6.2. Transport by sea

Special provision (IMDG) : 223, 274  
Limited quantities (IMDG) : 5 L  
Excepted quantities (IMDG) : E1  
Packing instructions (IMDG) : P001, LP01  
IBC packing instructions (IMDG) : IBC03  
Tank instructions (IMDG) : T7  
Tank special provisions (IMDG) : TP1, TP28  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-A  
Stowage category (IMDG) : A  
Properties and observations (IMDG) : Toxic if swallowed, by skin contact or by inhalation.

#### 14.6.3. Air transport

CAO packing instructions (IATA) : 663  
CAO max net quantity (IATA) : 220L  
PCA packing instructions (IATA) : 655  
PCA Limited quantities (IATA) : Y642  
PCA limited quantity max net quantity (IATA) : 2L  
PCA max net quantity (IATA) : 60L  
PCA Excepted quantities (IATA) : E1  
Special provision (IATA) : A3, A4, A137  
ERG code (IATA) : 6L

#### 14.6.4. Inland waterway transport

Special provision (ADN) : 274, 614, 802  
Limited quantities (ADN) : 5 L  
Excepted quantities (ADN) : E1  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EP, TOX, A  
Ventilation (ADN) : VE02  
Number of blue cones/lights (ADN) : 0  
Carriage prohibited (ADN) : No

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions  
Contains no REACH candidate substance  
Contains no REACH Annex XIV substances.



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### 15.1.2. National regulations

#### Germany

Water hazard class (WGK) : 2 - hazardous to water

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

PHV SDS EU

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