

# Material Safety Data Sheet

<b>Product name</b>	Diphenyl ether
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## 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product name	Diphenyl ether
1.2. CAS-No.	101-84-8
1.3. Relevant identified uses of the substance or mixture and uses advised against	
Identified uses	Laboratory chemicals, Synthesis of substances
1.4. Details of the supplier of the safety data sheet	
Company	Glory Global CO.,LTD
Address	C-208, 10, Nowon-ro 15-gil, Nowon-gu, Seoul, Korea
Emergency Phone	+82 2 6223 0862

## 2. Hazards identification

2.1. Classification of the substance or mixture GHS	Short-term (acute) aquatic hazard (Category 1), H400
Classification in accordance with 29 CFR 1910 (OSHA HCS)	Long-term (chronic) aquatic hazard (Category 1), H410
	For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2. GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

H410

Very toxic to aquatic life with long lasting effects.

### 2.3. Precautionary statement(s)

P273

Avoid release to the environment.

P391

Collect spillage.

P501

Dispose of contents/ container to an approved waste disposal plant.

### 2.4. Hazards not otherwise classified (HNOC) or not covered by GHS

None

## 3. Composition/information on ingredients

### 3.1. Substances

Synonyms	Phenyl ether Diphenyl oxide
Formula	C12H10O
Molecular weight	170.21 g/mol
CAS No	101-84-8
EC-No.	202-981-2

Component	Classification	Concentration
<b>Diphenyl ether</b>		
	Aquatic Acute 1; Aquatic Chronic 1; H400, H410 M-Factor – Aquatic Acute: 1	≤100

Additional Information

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

## 4. First aid measures

### 4.1. Description of first aid measures

General advice

- Consult a physician. Show this safety data sheet to the doctor in attendance.
- Move out of dangerous area.

If inhaled

- If breathed in, move person into fresh air. If not breathing, give artificial respiration.
- Consult a physician.

In case of skin contact

- Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

- Flush eyes with water as a precaution.

If swallowed

- Never give anything by mouth to an unconscious person. Rinse mouth with water.
- Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed – The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3. Indication of any immediate medical attention and special treatment needed – No data available

## 5. Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media – Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture – Carbon oxides

5.3. Special protective equipment and precautions for fire fighters – Wear self-contained breathing apparatus for firefighting if necessary.

5.4. Further information – No data available

## 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures – Use personal protective equipment. Avoid dust formation.  
– Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.  
– For personal protection see section 8.

6.2. Environmental precautions – Prevent further leakage or spillage if safe to do so. Do not let product enter drains.  
– Discharge into the environment must be avoided.

6.3. Methods and materials for containment and cleaning up – Pick up and arrange disposal without creating dust. Sweep up and shovel.  
– Keep in suitable, closed containers for disposal.

6.4. Reference to other sections – For disposal see section 13.

## 7. Handling and storage

7.1. Precautions for safe handling – Avoid formation of dust and aerosols.  
– Further processing of solid materials may result in the formation of combustible dusts.  
– The potential for combustible dust formation should be taken into consideration before additional processing occurs.  
– Provide appropriate exhaust ventilation at places where dust is formed.  
– For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities – Keep container tightly closed in a dry and well-ventilated place.  
– Storage class (TRGS 510): 13: Non Combustible Solids

7.3. Specific end use(s) – Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. Exposure controls/personal protection

### 8.1. Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Diphenyl ether	101-84-8	TWA	1 ppm	USA. ACGIH Threshold Limit Value (TLV)
	Remarks	Upper Respiratory Tract irritation Eye irritation Nausea		
		STEL	2 ppm	USA. ACGIH Threshold Limit Value (TLV)
		Upper Respiratory Tract irritation Eye irritation Nausea		
		TWA	1 ppm 7 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	1 ppm 7 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants
		The value in mg/m <sup>3</sup> is approximate.		
		PEL	1 ppm 7 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

### 8.2. Exposure controls

Appropriate engineering controls – Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

a) Eye/face protection – Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

b) Skin protection – Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

c) Body Protection – Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

d) Respiratory protection

– Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

e) Control of environmental exposure

– Prevent further leakage or spillage if safe to do so. Do not let product enter drains.  
– Discharge into the environment must be avoided.

## 9. Physical and chemical properties

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

Appearance	Form: crystalline Colour: white
Odour	unpleasant
Odour Threshold	No data available
pH	No data available
Melting / freezing point	Melting point/range: 25 – 27 °C (77 – 81 °F) – lit.
Initial Boiling Point and Boiling Range	259 °C 498 °F – lit.
Flash point	115 °C (239 °F) – closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 1.5 %(V) Lower explosion limit: 0.8 %(V)
Vapour pressure	1013 hPa at 257.9 °C (496.2 °F) < 1 hPa at 20 °C(68 °F)
Vapour density	No data available
Relative Density	1.073 g/mL at 25 °C (77 °F)
Water solubility	0.018 g/l at 25 °C (77 °F) – slightly soluble
Partition coefficient n-octanol/water	log Pow: 4.21 at 25 °C (77 °F)
Auto-ignition temperature	618 °C (1144 °F) at 1,013 hPa
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

### 9.2. Other safety information

## 10. Stability and reactivity

10.1. Reactivity	– No data available
10.2. Chemical stability	– Stable under recommended storage conditions.
10.3. Possibility of hazardous reactions	– No data available
10.4. Conditions to avoid	– No data available
10.5. Incompatible materials	– Strong oxidizing agents
10.6. Hazardous decomposition products	– Hazardous decomposition products formed under fire conditions.: Carbon oxides – Other decomposition products: No data available – In the event of fire: see section 5

## 11. Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	LD50 Oral – Rat – 3,370 mg/kg Inhalation: No data available LD50 Dermal – Rabbit – > 5,000 mg/kg No data available
Skin corrosion/irritation	Skin – Rabbit Result: No skin irritation
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitisation	– Human Result: Not a skin sensitizer.
Germ cell mutagenicity	No data available reverse mutation assay Salmonella typhimurium Result: negative In vitro mammalian cell gene mutation test Chinese hamster ovary cells Result: negative Chromosome aberration test in vitro Chinese hamster ovary cells

### 11.2. Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
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NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens
11.3. Reproductive toxicity	No data available Developmental Toxicity– Rat
11.4. Specific target organ toxicity – single exposure	No data available
11.5. Specific target organ toxicity – repeated exposure	No data available
11.6. Aspiration hazard	No data available
11.7. Additional Information	RTECS: KN8970000
<b>12. Ecological information</b>	
12.1. Toxicity	
Fish	static test LC50 – Oncorhynchus mykiss (rainbow trout) – 4.2 mg/l – 96 h
Algae/aquatic plants	static test EC50 – Pseudokirchneriella subcapitata – 0.58 mg/l – 72 h
Bacteria	
12.2. Persistence and degradability	
Biodegradability	Oncorhynchus mykiss (rainbow trout) – 7 d – 16 µg/l(Diphenyl ether) Bioconcentration factor (BCF): 470 Indication of bioaccumulation.
12.3. Bioaccumulative potential	– No data available
12.4. Mobility in soil	– No data available
12.5. Results of PBT and vPvB assessment	– PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
12.6 Other adverse effects	– An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. – Very toxic to aquatic life with long lasting effects.
<b>13. Disposal considerations</b>	
13.1 Waste treatment methods	
Product	– Offer surplus and non–recyclable solutions to a licensed disposal company.
Contaminated packaging	– Dispose of as unused product.
<b>14. Transport information</b>	
14.1. DOT (US)	– Not dangerous goods
14.2. IMDG	– UN number: 3077 – Class: 9 – Packing group: III – EMS–No: F–A, S–F – Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Diphenyl ether) Marine pollutant : yes
14.3. IATA (Country variations may apply)	– UN number: 3077 – Class: 9 – Packing group: III – Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Diphenyl ether)
14.4. Further information	– EHS–Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.
<b>15. Regulatory information</b>	
15.1. SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
15.2. SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
15.3. SARA 311/312 Hazards	Chronic Health Hazard
15.4. Massachusetts Right To Know Components	– Diphenyl ether – CAS–No.: 101–84–8 – Revision Date: 1993–04–24
15.5. Pennsylvania Right To Know Components	– Diphenyl ether – CAS–No.: 101–84–8 – Revision Date: 1993–04–24
15.6. New Jersey Right To Know Components	– Diphenyl ether – CAS–No.: 101–84–8 – Revision Date: 1993–04–24

15.7. California Prop. 65 Components

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

16. Other information

16.1. Further information

– Always work safely around open hatches on bulk tanks. The low density makes flotation difficult for immersed person.

