

## SAFETY DATA SHEET

(GHS, Appendix 4)

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

#### 1.1. Product identifier

Product name : Diphenyl Oxide  
EC N° : 202-981-2  
CAS N° : 101-84-8

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

Industrial-grade aromatic raw material, not intended for retail sale

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

Registered company name : Aromatics Original Material Co., Ltd.  
Address : 3/8 1st floor Bangwaek Rd, Bangpai, Bangkae, Bangkok 10160  
Thailand.

### SECTION 2 : HAZARDS IDENTIFICATION

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

##### GHS compliant.

Acute oral toxicity, Category 5 (Acute Tox. 5, H303).  
Skin irritation, Category 3 (Skin Irrit. 3, H316).  
Eye irritation, Category 2A (Eye Irrit. 2A, H319).  
Hazardous to the aquatic environment - Acute hazard, Category 1 (Aquatic Acute 1, H400).  
Hazardous to the aquatic environment - Chronic hazard, Category 3 (Aquatic Chronic 3, H412).  
This substance does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

#### 2.2. Label elements

##### GHS compliant.

Hazard pictograms :



GHS09



GHS07

Signal Word :

WARNING

Product identifiers (list of classified components) :

CAS 101-84-8      DIPHENYL ETHER

Hazard statements :

H303	May be harmful if swallowed.
H316	Causes mild skin irritation.
H319	Causes serious eye irritation.

H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
Precautionary statements - Prevention :	
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/ ...
Precautionary statements - Response :	
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/... if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P391	Collect spillage.
Precautionary statements - Disposal :	
P501	Dispose of contents/container in accordance with local regulation.

### 2.3. Other hazards

## SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

#### Composition :

Identification	Classification GHS	Note	%
CAS: 101-84-8 EC: 202-981-2 DIPHENYL ETHER	GHS07, GHS09 Wng Acute Tox. 5, H303 Skin Irrit. 3, H316 Eye Irrit. 2, H319 Aquatic Chronic 3, H412 Aquatic Acute 1, H400 M Acute = 1	[1]	100%

#### Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

## SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

### 4.1. Description of first aid measures

#### In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

If there is any redness, pain or visual impairment, consult an ophthalmologist.

#### In the event of splashes or contact with skin :

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

#### In the event of swallowing :

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water, administer activated medical charcoal and consult a doctor.

Keep the person exposed at rest. Do not force vomiting.

Seek medical attention immediately, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

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

No data available.

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

No data available.

**SECTION 5 : FIREFIGHTING MEASURES**

Non-flammable.

**5.1. Extinguishing media****Suitable methods of extinction**

In the event of a fire, use :

- sprayed water or water mist

**Unsuitable methods of extinction**

In the event of a fire, do not use :

- water jet

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

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO<sub>2</sub>)

**5.3. Advice for firefighters**

No data available.

**SECTION 6 : ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

Consult the safety measures listed under headings 7 and 8.

**For non first aid worker**

Avoid any contact with the skin and eyes.

**For first aid worker**

First aid workers will be equipped with suitable personal protective equipment (See section 8).

**6.2. Environmental precautions**

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

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

Clean preferably with a detergent, do not use solvents.

**6.4. Reference to other sections**

No data available.

**SECTION 7 : HANDLING AND STORAGE**

Requirements relating to storage premises apply to all facilities where the substance is handled.

**7.1. Precautions for safe handling**

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Ensure that there is adequate ventilation, especially in confined areas.

**Fire prevention :**

Handle in well-ventilated areas.

Prevent access by unauthorised personnel.

**Recommended equipment and procedures :**

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Avoid skin and eye contact with this substance.

Packages which have been opened must be reclosed carefully and stored in an upright position.

**Prohibited equipment and procedures :**

No smoking, eating or drinking in areas where the substance is used.

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

No data available.

**Storage**

Keep the container tightly closed in a dry, well-ventilated place.

Keep away from food and drink, including those for animals.

The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

**Packaging**

Always keep in packaging made of an identical material to the original.

**7.3. Specific end use(s)**

No data available.

**SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters****Occupational exposure limits :**

- European Union (2022/431, 2019/1831, 2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :

CAS	VME-mg/m <sup>3</sup> :	VME-ppm :	VLE-mg/m <sup>3</sup> :	VLE-ppm :	Notes :
101-84-8	7	1	14	2	-

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm	2 ppm			

- South Africa / DME (Department of Minerals and Energy, 2006) :

- South Africa / DOL RL (Department of Labour, Recommended limits, 1995) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm 7 mg/ m <sup>3</sup>				

- Germany - AGW (BAuA - TRGS 900, 02/2022) :

CAS	VME :	VME :	Excess	Notes
101-84-8		1 ppm 7.1 mg/m <sup>3</sup>		1(I)

- Australia (NOHSC: 3008, 1995) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm 7 mg/ m <sup>3</sup>	2 ppm 14 mg/ m <sup>3</sup>		H	

- Belgium (Royal decree of 11/05/2021) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :

101-84-8	1 ppm 7 mg/ m3	2 ppm 14 mg/ m3						
- Canada / Alberta (Occupational health and safety code, 2009) :								
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :			
101-84-8	1 ppm 7 mg/ m3	2 ppm 14 mg/ m3						
- Canada / British Colombia (2009) :								
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :			
101-84-8	1 ppm	2 ppm						
- Canada / Quebec (Regulations on occupational health and safety) :								
- China (GBZ 2.1, 2007) :								
CAS	TWA :	STEL :	Anm :	TWA :	STEL :			
101-84-8	7 mg/m3	14 mg/m3						
- Denmark (2020) :								
Stof	TWA	VSTEL	Loftvaerdi	Anm				
101-84-8	1 ppm 7 mg/ m3			E				
- France (INRS - Outils 65 / 2021-1849, 2021-1763, decree of 09/12/2021) :								
CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :		
101-84-8	1	7	2	14	-	-		
- Finland (HTP-värden 2018) :								
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :			
101-84-8	1 ppm 7 mg/ m3	2 ppm 14 mg/ m3						
- Spain (Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT), 2019) :								
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :			
101-84-8	1 ppm 7.1 mg/ m3	2 ppm 14.2 mg/m3		VLI				
- Greece (90/1999) :								
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :			
101-84-8		1 ppm 7 mg/ m3						
- Ireland (Code of practice for the Chemical Agents Regulations, 2021) :								
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :			
101-84-8	1 ppm 7 mg/ m3							
- Malaysia :								
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :			
101-84-8	1 ppm	-	-	-	-			
- Mexico :								
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :			
101-84-8	1 ppm	2 ppm	-	-	-			
- Norway (Veiledning om administrative normer for forurensning i arbeidsatmosfære, 2019) :								
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :			

101-84-8	1 ppm 7 mg/ m3	2 ppm 14 mg/ m3	E		
- New Zealand (Workplace Exposure standards, 11/2020, edition 12-1) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm 7 mg/ m3	2 ppm 14 mg/ m3			
- Netherlands / MAC-waarde (10 december 2014) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm 7 mg/ m3	2 ppm 14 mg/ m3			
- Poland (Dz. U. z 2018 r. poz. 917, 1000 i 1076) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	7 mg/m3	14 mg/m3			
- Czech Republic (Regulation No. 361/2007) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	5 mg/m3	10 mg/m3			
- Slovakia (Regulation 300/2007, 471/2011 23/11/2011) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm 7.1 mg/ m3				
- Slovenia (Uradni List, 04/06/2015) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8		1 ppm 7.1 mg/ m3			
- Switzerland (Suva 2021) :					
CAS	VME	VLE	Valeur plafond	Notations	
101-84-8	1 ppm 7 mg/ m3	2 ppm 14 mg/ m3			
- Sweden (AFS 2018 :1) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm 7 mg/ m3	2 ppm 14 mg/ m3			
- Romania (Hotărâre 1218/2006) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	0.7 ppm 5 mg/ m3	1.4 ppm 10 mg/m3			
- UK / WEL (Workplace exposure limits, EH40/2005, Fourth Edition 2020) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm 7 mg/ m3	2 ppm 14 mg/ m3			
- USA / NIOSH REL (National Institute for Occupational Safety and Health, Recommended exposure limits) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm	-	-	-	-
- USA / NIOSH IDLH (National Institute for Occupational Safety and Health, Immediately Dangerous to Life or Health Concentrations) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :

101-84-8	1 ppm 7 mg/ m3				
- USA / OSHA PEL (Occupational Safety and Health Administration, Permissible Exposure Limits) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
101-84-8	1 ppm 7 mg/ m3				

## 8.2. Exposure controls

### Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

#### - Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

#### - Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN ISO 374-1.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- PVA (Polyvinyl alcohol)

#### - Body protection

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605/A1 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034/A1 to prevent skin contact.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

## SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

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

No data available.

**Physical state**

Physical state : Fluid liquid.

**Colour**

Unspecified

**Odour**

Odour threshold : Not stated.

**Melting point**

Melting point/melting range : Not specified.

**Freezing point**

Freezing point / Freezing range : Not stated.

**Boiling point or initial boiling point and boiling range**

Boiling point/boiling range : Not specified.

**Flammability**

Flammability (solid, gas) : Not stated.

**Lower and upper explosion limit**

Explosive properties, lower explosivity limit (%) : Not stated.

Explosive properties, upper explosivity limit (%) : Not stated.

**Flash point**

Flash Point Interval : > 93°C  
Method for determining the flash point:  
ASTM D 93-15 (Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester).

**Auto-ignition temperature**

Self-ignition temperature : Not specified.

**Decomposition temperature**

Decomposition point/decomposition range : Not specified.

**pH**

pH : Not relevant.

pH (aqueous solution) : Not stated.

**Kinematic viscosity**

Viscosity : Not stated.

**Solubility**

Water solubility : Insoluble.

Fat solubility : Not stated.

**Partition coefficient n-octanol/water (log value)**

Partition coefficient: n-octanol/water : Not stated.

**Vapour pressure**

Vapour pressure (50°C) : Not stated.



**Density and/or relative density**

Density : 1,065-1,085@20°C  
Method for determining the density :  
NF ISO 279:1999 (T75-111)

**Relative vapour density**

Vapour density : Not stated.

**9.2. Other information**

Index of refraction : 1,575-1,585@20°C  
Method of determining the refractive index :  
NF ISO 280:1999 (T75-112)

**9.2.1. Information with regard to physical hazard classes**

No data available.

**9.2.2. Other safety characteristics**

No data available.

**SECTION 10 : STABILITY AND REACTIVITY****10.1. Reactivity**

No data available.

**10.2. Chemical stability**

This substance is stable under the recommended handling and storage conditions in section 7.

**10.3. Possibility of hazardous reactions**

When exposed to high temperatures, the substance can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

**10.4. Conditions to avoid**

No data available.

**10.5. Incompatible materials**

No data available.

**10.6. Hazardous decomposition products**

The thermal decomposition may release/form :  
- carbon monoxide (CO)  
- carbon dioxide (CO<sub>2</sub>)

**SECTION 11 : TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects**

Exposure to vapours from this solvent in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system.

May be harmful if swallowed.

May cause reversible damage to the skin; namely the formation of erythema and eschar following exposure up to four hours.

Repeated or prolonged contact with the substance may cause removal of natural oil from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

May have reversible effects on the eyes, such as eye irritation which is totally reversible by the end of observation at 21 days.

Splashes in the eyes may cause irritation and reversible damage

**11.1.1. Substances**

**Acute toxicity :**

DIPHENYL ETHER (CAS: 101-84-8)

Oral route :

LD50 = 2830 mg/kg bodyweight/day

#### 11.1.2 Complex substance

#### Skin corrosion/skin irritation :

Irritation : Causes mild skin irritation.

#### 11.2. Information on other hazards

### SECTION 12 : ECOLOGICAL INFORMATION

Harmful to aquatic life with long lasting effects.

Very toxic to aquatic organisms.

The product must not be allowed to run into drains or waterways.

#### 12.1. Toxicity

#### 12.1.2 Complex substance

No aquatic toxicity data available for the substances.

#### 12.2. Persistence and degradability

No data available.

#### 12.3. Bioaccumulative potential

No data available.

#### 12.4. Mobility in soil

No data available.

#### 12.5. Results of PBT and vPvB assessment

No data available.

#### 12.6. Endocrine disrupting properties

No data available.

#### 12.7. Other adverse effects

No data available.

### SECTION 13 : DISPOSAL CONSIDERATIONS

The appropriate waste management of the substance and/or its container must be determined in accordance with local regulations.

#### 13.1. Waste treatment methods

Do not pour into drains or waterways.

#### Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

#### Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

### SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2023 - IMDG 2022 [41-22] - ICAO/IATA 2023 [64]).

#### 14.1. UN number

3077

#### 14.2. UN proper shipping name



	3.3.1 - 2.10.2.7)									
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	9	-	III	956	400 kg	956	400 kg	A97 A158 A179 A197 A215	E1	
	9	-	III	Y956	30 kg G	-	-	A97 A158 A179 A197 A215	E1	
	Not subject to this regulation if Q ≤ 5 1 / 5 kg (IATA 4.4.4 - DS A197)									

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

Marine pollutant (IMDG 3.1.2.9):(diphenyl ether)

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

### SECTION 15 : REGULATORY INFORMATION

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

The following regulations have been used:

- Globally Harmonized System of Classification and Labelling of Chemicals (GHS), review no. 8 (2019)

#### Container information:

No data available.

#### Particular provisions :

No data available.

#### 15.2. Chemical safety assessment

No data available.

### SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the substance and not as a guarantee of the properties thereof.

#### Wording of the phrases mentioned in section 3 :

H303 May be harmful if swallowed.  
H316 Causes mild skin irritation.

H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

**Abbreviations and acronyms :**

LD50 : The dose of a test substance resulting in 50% lethality in a given time period.  
STEL : Short-term exposure limit  
TWA : Time Weighted Averages  
TMP : French Occupational Illness table  
TLV : Threshold Limit Value (exposure)  
AEV : Average Exposure Value.  
ADR : European agreement concerning the international carriage of dangerous goods by Road.  
IMDG : International Maritime Dangerous Goods.  
IATA : International Air Transport Association.  
ICAO : International Civil Aviation Organisation  
RID : Regulations concerning the International carriage of Dangerous goods by rail.  
GHS07 : Exclamation mark  
GHS09 : Environment  
PBT: Persistent, bioaccumulable and toxic.  
vPvB : Very persistent, very bioaccumulable.