

SAFETY DATA SHEET

Diphenyl Oxide

CAS # 101-84-8

UN # 3077

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

1.1 Product identifiers

Product name : Diphenyl Oxide
EC Number : 202-981-2
EC Name : Diphenyl Ether
CAS-No. : 101-84-8
IUPAC Name : 1,1'-Oxydibenzene
REACH Number : 01-2119472545-33-0008

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

Identified uses : Formulation and Repackaging, Industrial chemical processing (Intermediates), Industrial use of Heat Transfer Fluid, Consumer use of fragrances

1.3 Details of the supplier of the safety data sheet

Company : H J Arochem Pvt Limited
11/B, New Ahmedabad Industrial Estate, Village Moraiya
Ahmedabad - 382213, Gujarat
INDIA
Telephone : +91-79 26560040 , +919825127491
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1.4 Emergency telephone number

Contact Person : Sanket Gandhi
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Contact Person : Satish Rajpara
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification and labelling according to CLP/GHS for Physicochemical Properties

H319: Causes serious eye irritation.

Classification and labelling according to CLP / GHS for the environment

H411 : Toxic to aquatic life with long lasting effects.

2.2 Label elements

Classification and labelling according to CLP / GHS for additional hazard classes

Pictogram :



Signal word : Warning

Hazard statement(s)

H319 : Causes serious eye irritation
H411 : Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P264 : Wash ... thoroughly after handling.
P280 : Wear protective gloves/protective clothing/eye protection/face protection.
P273 : Avoid release to the environment.
P391 : Collect spillage.
P305+P351+P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 : If eye irritation persists: Get medical advice/attention.
P501 : Dispose of contents/container toin accordance with local/regional/national /international regulations (to be specified). Manufacturer/supplier or the competent authority to specify whether disposal requirements apply to contents, container or both.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Diphenyl Oxide
Formula : C12-H10-O
Molecular weight : 170.2 g/mol
CAS-No. : 101-84-8
EC-No. : 202-981-2

Ingredients according CLP / GHS for hazard classes

Component	Classification	Concentration
Diphenyl Oxide		
CAS-No. 101-84-8	H319-Causes serious eye irritation; H410-Toxic to aquatic life with long lasting effects.	<= 100 %
EC-No. 202-981-2		

SECTION 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.

If inhaled

Remove to fresh air. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not use mouth-to-mouth method if victim inhaled the substance. Get medical attention.

In case of skin contact

Immediately flush skin with plenty of water for at least 15 minutes. remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

If swallowed

Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control centre. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Immediately call a POISON CENTRE or doctor/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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol – resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.

5.3 Advice for firefighters

Fire fighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves and rubber boots. Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep people away from and upwind of spill/leak. Avoid inhalation of vapours and sprays mists. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition. Follow facility/company's emergency plans.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Eliminate sources of ignition. Ventilate the contaminated area. Prevent spreading over a wide area (e.g. by containment or oil barriers). In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

6.3 Methods and materials for containment and cleaning up

Ventilate the contaminated area. Eliminate ignition sources including sources of electrical, static or frictional sparks. Avoid dust formation. Wear appropriate protective equipment and clothing during clean-up.

Large Spills: Dike far ahead of spill for later disposal.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

6.4 Reference to other sections

Not available

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with eyes. Avoid contact with skin. Wear personal protective equipment. Avoid prolonged exposure. Wash thoroughly after handling. Do not re-use empty containers. As with all chemicals, good industrial hygiene practices should be followed when handling this material. When the container(s) is empty it may retain product residue including vapours which could accumulate. Therefore, do not cut, drill, grind, or weld empty containers.

7.2 Conditions for safe storage, including any incompatibilities

Guard against dust accumulation of this material. Keep away from heat, sparks and open flame. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a closed containers away from incompatible materials. Prevent electrostatic charge build-up using common bonding and grounding techniques. Use care in handling/storage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Hazard conclusions for workers

Route	Type of effect	Hazard conclusion	Most sensitive endpoint
Inhalation	Systemic effects - Long-term	DNEL (Derived No Effect Level) 59mg/m3	repeated dose toxicity (Oral)
Inhalation	Systemic effects - Acute	no hazard identified	
Inhalation	Local effects - Long-term	DNEL (Derived No Effect Level) 7mg/m3	repeated dose toxicity
Inhalation	Local effects - Acute	DNEL (Derived No Effect Level) 14mg/m3	repeated dose toxicity
Dermal	Systemic effects - Long-term	DNEL (Derived No Effect Level) 25mg/kg bw/day	repeated dose toxicity (Dermal)
Dermal	Systemic effects - Acute	no hazard identified	
Dermal	Local effects - Long-term		
Dermal	Local effects - Acute	no hazard identified	skin irritation/corrosion
Eyes	Local effects	medium hazard (no threshold derived)	

Predicted Effect Concentrations for Diphenyl Oxide			
Type	Compartment Detail	Value	Method Detail
PNEC	Soil	0.0681 mg/kg dwt	Equilibrium, Partitioning
PNEC	Sewage Treatment Plant	10 mg/l	Assessment Factors
PNEC	Marine Water Sediment	0.0345 mg/kg dwt	Equilibrium, Partitioning
PNEC	Marine Water	0.00071 mg/l	Assessment Factors
PNEC	Intermittent Release	0.017 mg/l	Assessment Factors
PNEC	Fresh Water Sediment	0.345 mg/kg dwt	Equilibrium, Partitioning
PNEC	Fresh Water	0.0071 mg/l	Assessment Factors

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

Eye/face Protection

Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Chemical goggles should be consistent with EN 166 or equivalent. If splashes are likely to occur, wear face-shield. Eye wash fountain is recommended.

Skin 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.

Hand Protection

Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl alcohol ("PVA"). Viton. Avoid gloves made of: Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. 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.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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. Use the following CE approved air-purifying respirator: Organic vapour cartridge with a particulate pre-filter, type AP2.

Ingestion Protection

Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Hygiene Measures

Wash hands, forearms and face thoroughly after handling chemicals products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eye wash stations and safety showers are close to the work station location.

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	:	Colourless, crystalline solid, or liquid [$>27^{\circ}\text{C}$],
b) Physical State	:	Solid
c) Colour	:	Colourless
d) Odour	:	Geranium-like odour
e) pH	:	Not available
f) Vapor density	:	5.86 [Air - 1]
g) Vapor pressure	:	0.0225 mm Hg @ 25°C (77°F) 0.003 kPa @ 25°C (77°F)
h) Melting/freezing point	:	26.8°C (80.24°F)
i) Boiling point	:	258°C (496.4°F)
i) Solubility (water)	:	18 mg/l @ 25°C (77°F)
j) Specific Gravity	:	1.07 @ 25°C (77°F)
k) Relative Density	:	Not available
l) Flash point	:	112°C (239°F) (Close Cup ASTM D-93)
n) Auto-ignition temperature	:	617.78°C (1144°F)
o) Evaporation Rate	:	< Ether
p) Partition Coefficient (n-octonal/water)	:	4.2
q) Molecular weight	:	170.2 g/mol
r) Molecular Formula	:	C ₁₂ H ₁₀ O
s) Critical temperature	:	493.9°C (921°F)
t) Dynamic viscosity	:	3.491 mPa.s
u) Flash point class	:	Combustible 111B
y) Solubility (other)	:	Soluble in: Acetic acid, Benzene, Ethanol, Ether

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under normal conditions [e.g., 21°C (70°F) & 14.7 psi (760 mmHg)].

10.3 Possibility of hazardous reactions

Will not occur under normal conditions [e.g., 21°C (70°F) & 14.7 psi (760 mmHg)].

10.4 Conditions to avoid

Heat, flames and sparks. Avoid dust close to ignition sources.

10.5 Incompatible materials

Incompatible with oxidising agents.

10.6 Hazardous decomposition products

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral	Rat	2.830 g/kg
LD50 Dermal	Rabbit	7.940 g/kg

Skin corrosion/irritation

Skin	Rabbit
Result	Mild skin irritation - 24 h

Serious eye damage/eye irritation

Eyes	Rabbit
Result	Irritating to eyes

Respiratory or skin sensitisation

Skin	Human
Result	Not sensitizing

Germ cell mutagenicity

conclusive but not sufficient for classification

Carcinogenicity

conclusive but not sufficient for classification

Reproductive toxicity

Material Toxicity	Fertility	Developmental Toxin	Species	Dose	Days	Exposure/ Test
Positive	-	Negative	Rat	Oral : 500 mg/ kg NOAEL	11 Days	OECD 414 Prenatal Developmental Toxicity Study

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

12.1 Toxicity

Test	Species	Exposure
Acute EC50 1.96 mg/l	Daphnia - Daphnia Magna	48 Hours
Acute LC50 2.5 to 5 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
Acute LC50 4.2 mg/l	Fish - Oncorhynchus mykiss	96 Hours

12.2 Persistence and degradability

Rate of Degradation/ Elimination (%)	Period (Days)	Test
76%	20 Days	OECD 301D Ready Biodegradability - Closed Bottle Test

12.3 Bioaccumulative potential

LogP _{ow}	BCF	Potential
4.21	196	low

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Dispose in accordance with all applicable regulations. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used.

Contaminated packaging

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and run off and contact with soil, water ways, drains and sewers.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 3077

IMDG: 3077

IATA: 3077

14.2 UN proper shipping name

ADR/RID: Environmentally hazardous substance, solid, n.o.s. (Diphenyl ether)

IMDG: Environmentally hazardous substance, solid, n.o.s. (Diphenyl ether)

IATA: Environmentally hazardous substance, solid, n.o.s. (Diphenyl ether)

14.3 Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA: 9

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: Yes

IMDG Marine pollutant : Yes

IATA: Yes

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

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

All components are in compliance with the following inventories:

U.S.	EU	Canadian	Australian	Korean	Japanese	Philippine	Chinese
TSCA	EINECS	DSL	AICS	Yes	ENCS	PICCS	Yes

15.2 Chemical Safety Assessment

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. H J Arochem Pvt. Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.