



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: DIPHENYL OXIDE
MSDS Number: 000101848
Chemical Name: benzene, 1,1'-oxybis
Synonyms: Diphenyl ether, phenoxybenzene, DPO, phenyl ether

MANUFACTURERS/SUPPLIERS DATA

NAME OF FIRM: VIKRAM THERMO (INDIA) LIMITED
MAILING ADDRESS: 101, Classic Avenue,
Ashram Road,
Ahmedabad-380 009.
TELEPHONE NO.: 0091-079- 27542659, 27543745
FAX NUMNER: 0091-079-27540562
STANDARD PKG.: 220 Kgs Nett.Wt.
CONTACT PERSON: Mr D.K.PATEL in Emergency

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	% By weight
Diphenyl Oxide	101-84-8	100

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: white crystalline solid or colorless liquid with a characteristic aromatic odor.

WARNING!

CAUSES EYE AND RESPIRATORY TRACT IRRITATION

POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: Inhalation and skin contact

EYE CONTACT: This product may cause irritation based on toxicity Studies.

SKIN CONTACT: This product is no more than slightly irritating based on toxicity testing.

INHALATION: This product may cause irritation to the nose and Upper respiratory tract based on toxicity studies.

INGESTION: No more than slightly toxic based on toxicity studies. No significant adverse health effects are likely to develop if only small amounts (less than a mouthful) are swallowed. Refer to Section 11 for toxicological information.

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4. FIRST AID MEASURES

IF IN EYES: immediately flush with plenty of water for at least 15 minutes. If easy to do remove any contact lenses. Get medical attention. Remove material from skin and clothing.

IF ON SKIN: immediately flush with plenty of water. Remove contaminated clothing. Get medical attention. Wash clothing before reuse.

IF INHALED: remove to fresh air. If not breathing, five artificial respirations. If breathing is difficult, five oxygen. Get medical attention.

IF SWALLOWED: immediate first aid is not likely to be required. A Physician or Poison control Center can be contacted for advice. Wash heavily contaminated clothing before reuse.

5. FIRE FIGHTING MEASURES

Flash Point: 240 degrees F (115 degrees C) Method: Cleveland Open Cup
Auto ignition Temperature: 1,144 degrees F (617 degrees C) Method : ASTM D-2155

Flammability Limits: Lower: 0.8% by volume, Upper: 1.5% by volume

Unusual Fire and Explosion Hazards: This product is a combustible Solid and can release toxic vapors on burning. Vapor aired mixtures may be explosive.

Fire Fighting Equipment: Fire fighters and others exposed to products of combustion should wear self-contained breathing Apparatus. Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

For solid: In case of spill, sweep, scoop or vacuum and remove.

For liquid: Contain large spills with dikes and transfer the Material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical waste container.

Refer to Section 13 for disposal information

7. HANDLING AND STORAGE

Avoid contact with eyes.
Avoid breathing dust or vapor.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.

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Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed. The reuse of this material's container for non-Industrial purposes is prohibited and any reuse must be in consideration of the data provided in the MSDS.

Storage: Product is stable under normal conditions of storage and handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection: Where there is significant potential for eye Contact, wear chemical goggles and have eye-flushing equipment available.

Skin Protection: Wear appropriate clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove for given application. Wear face shield and chemical resistant clothing such as rubber apron when splashing is likely. Wash contaminated skin promptly. Launder contaminated clothing and clean protective equipment before reuse. Wash thoroughly after handling.

Respiratory Protection: Avoid breathing vapor. Use IOSH/MSHA approved respiratory protection equipment (full-face piece recommended) when airborne exposure limits are exceeded (see below). If used, full-face piece replaces need for face shield and/or chemical goggles. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by IOSH/MSHA or the manufacturer. Respiratory protection programs must comply with 29CFR 1910.134.

Ventilation: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Airborne Exposure Limits:
Product: phenyl ether

OSHA PEL: 1 ppm (7 mg/m³) 8-hour time-weighted average
ACGIH TLV: 1 ppm (7 mg/m³) 8-hour time-weighted average
ACGIH STEL: 2 ppm (14 mg/m³) short-term exposure limit

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Formula: (C₆H₅)₂O

Appearance: white crystalline solid or colorless liquid
Odor: Characteristic aromatic
Solubility in Water: 14 ppm@25 degrees C
Boiling Point: 496 degrees F (258 degrees C) @760 mm Hg
Melting Point: 80 degrees F (26 degrees C)
Density: 1.07 g/ml (super cooled liquid)

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NOTE: These physical data are typical values based on material tested but may vary from sample to sample Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions of storage and handling.
Materials to Avoid: strong oxidizers

Hazardous Decomposition Products. No uniquely hazardous decomposition products are expected. If product is burned, complete combustion produces carbon dioxide and water; partial combustion produces carbon monoxide, smoke, soot, and low molecular weight hydrocarbons.

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Data from laboratory studied conducted by Solutia and from the scientific literatures are summarized below.

Single exposure (acute) studied indicates.

Oral-Slightly Toxic, (Rat LD50 2,450 mg/kg)
Dermal-Practically Nontoxic, (Rabbit LD50>7,940 mg/kg)
Eye Irritation-Slightly Irritating. (Rabbit, 6.1/110.0)
Skin Irritation-Slightly irritating, (Rabbit, 24-hr exposure, 1.6/8.0)

Inhalation: (Rats were exposed to a stream of air which passed through Diphenyl Oxide and led directly into the experimental chamber. Due to its low volatility, there was essentially no vaporization of the test material and the animals survived both the 6-hour exposure and subsequent 14-day observation period without observable effects.)

No skin allergy was reported in humans following repeated exposure to 4% Diphenyl Oxide in petrolatum in controlled skin contact studies.

Following repeated inhalation (20 exposures) of Diphenyl-Oxide, The only adverse effects reported for rats and rabbits were eye and nasal irritation; no treatment-related effects were noted in dogs. Diphenyl Oxide produced no genetic changes in standard tests using animal or bacterial cells.

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12. ECOLOGICAL INFORMATION

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity.

- 48-hr EC50 Daphia magna: 1.7 mg/L; Toxic
- 96-hr LC50 Fathead minnow: 24mg/L; Harmful
- 96-hr LC50 Rainbow trout: 4.2 mg/L; Toxic
- 96-hr EC50 Algae (chlorophyll): 2.5 mg/L, Toxic

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity. A legend summarizing the classification scheme appears below.

Legend for Aquatic Organism Toxicity (Journal of the European Communities, Annex VII A, Section 5.2.1)

Values	Classifications
LC50 or EC50 ≤ 1.0 mg/L	Very Toxic
LC50 or EC50 > 1.0 mg/L and < or = 10 mg/L	Toxic
LC50 or EC50 > 10 mg/L and < or = 100 mg/L	Harmful
LC50 or EC50 > 100 mg/L	Practically Nontoxic
Biodegradation tests suggest that this product would meet the OECD guidelines for classification as "inherently biodegradable".	

13. DISPOSAL CONSIDERATIONS

This material when discarded is not a hazardous waste as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261. Dispose of by incineration or recycle in accordance with local, state and federal regulations. Consult your attorney or appropriate regulatory officials for information on such disposal.

This product should not be dumped spilled rinsed or washed into sewers or public waterways.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

- DOT Classification: Environmentally Hazardous Substances, Liquid, N.O.S (diphenyl oxide), 9, UN 3082 III*, Marine pollutant.
- DOT Label: None
- DOT Reportable Quantity: Not Applicable
- Special Provisions: This material meets the definition of a marine pollutant.





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IATA/ICAO: Not Applicable

IMDG Code: See U.S.DOT

* Applies ONLY for shipments in bulk or via water transportation.

15. REGULATORY INFORMATION

TSCA Inventory: Listed

SARA Hazard Notification

Hazard Categories Under Title III Rules (40 CFR 37): Immediate

Section 302 Extremely Hazardous substances: Not Applicable

Section 313 Toxic Chemical(s): Not Applicable

CERCLA Reportable Quantity: Not Applicable

Refer to Section 11 for OSHA Hazardous Chemical(s) and Section 13 for RCRA classification.

