



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE A0047
PRODUCT NAME DIPHENYL OXIDE
SUPPLIER Shanghai M & U International Trade Co., Ltd.
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FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)

2. HAZARD IDENTIFICATION:

Emergency Overview

OSHA Hazards

Target Organ Effect, Irritant.

Target organs

Liver, Kidney, Spleen, Thyroid. Gastrointestinal tract.

GHS Classification

Acute toxicity, Oral (Category 5)

Skin irritation (Category 3)

Serious eye damage (Category 1)

Acute aquatic toxicity (Category 2)

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H303 May be harmful if swallowed.

H316 Causes mild skin irritation.

H318 Causes serious eye damage.

H401 Toxic to aquatic life.

Precautionary statement(s)

P280 Wear protective gloves/eye protection/face protection.

P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard 1

Flammability 1

Physical hazards 0

NFPA Rating

Health hazard	1
Fire	1
Reactivity Hazard	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed.

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

SYNONYM	Phenyl ether Diphenyl oxide
Formula	C ₁₂ H ₁₀ O
Molecular Weight	170.20 g/mol
CAS-No	EC-No
101-84-8	202-981-2

4. FIRST-AID GUIDE:

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.

5. FIRE-FIGHTING GUIDE:

Suitable extinguishing media

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

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

6. ACCIDENTAL RELEASE GUIDE:

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

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.

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.

7. HANDLING AND STORAGE:

Precautions for safe handling

Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage

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

8. EXPOSURE AND PERSONAL PROTECTION:

Components with workplace control parameters.

Components CAS-No. Value Control Parameters Basis

Diphenyl ether 101-84-8 TWA 1 ppm USA. ACGIH Threshold Limit Values (TLV).

Eye & Upper Respiratory Tract irritation Nausea.

Remarks

STEL 2 ppm USA. ACGIH Threshold Limit Values (TLV).

Eye & Upper Respiratory Tract irritation Nausea.

TWA 1 ppm The value in mg/m³ is approximate.

TWA 1 ppm

TWA 1 ppm Personal protective equipment 7 mg/m³

USA. Occupational Exposure Limits (OSHA) -

Table Z-1 Limits for Air Contaminants.

7 mg/m³

USA. OSHA - TABLE Z-1 Limits for Air Contaminants -1910.1000.

7 mg/m³

USA. NIOSH Recommended Exposure Limits.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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).

Hand 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.

Eye protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and 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.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES:**Appearance**

Form	LIQUID/SOLID
Color	COLORLESS TO PALE YELLOW

Safety data

Melting point (°C)	26
Boiling point (°C)	258
Flash point (°F)	Closed cup >200
Vapor pressure (mm Hg @20 °C)	0.037
Density @25 °C	1.075
Water solubility	VERY SLIGHT
Odor	GERANIUM LEAVES

10. STABILITY AND REACTIVITY:**Chemical stability**

Stable under recommended storage conditions.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides.

11. TOXICOLOGICAL INFORMATION:**Acute toxicity**

Oral LD50

LD50 Oral - rat - 3,370 mg/kg

Dermal LD50

LD50 Dermal - rabbit - > 5,000 mg/kg

Skin corrosion/irritation

Skin - rabbit - Mild skin irritation - 24 h.

Serious eye damage/eye irritation

Severe eye irritation.

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.

ACGIH:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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 identified as a carcinogen or potential carcinogen by OSHA.

Potential health effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. Causes skin irritation.

Eyes Causes eye irritation.

Signs and Symptoms of Exposure

Prolonged or repeated exposure can cause; Dermatitis, Liver injury may occur. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION:

Toxicity

Toxicity to fish LC50 - Cyprinodon variegatus (sheepshead minnow) 1-.0-2.4 mg/l - 96.0h.
LC50 - Leuciscus idus (Golden orfe) -3.0 mg/l - 48.0 h.

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 0.67 mg/l - 48 h.

Bioaccumulative potential

Bioaccumulation Oncorhynchus mykiss (rainbow trout)- 7d.
Bioconcentration factor (BCF) : 470

Indication of bioaccumulation.

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.

13. DISPOSAL RECOMMENDATIONS:

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORTATION INFORMATION:

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION:

OSHA Hazards

Target Organ Effect, Irritant.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: 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.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard.

Massachusetts Right To Know Components

	CAS-No.	Revision Date.
Diphenyl ether	101-84-8	2007-03-01.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date.
Diphenyl ether	101-84-8	2007-03-01.

New Jersey Right To Know Components

	CAS-No.	Revision Date.
Diphenyl ether	101-84-8	2007-03-01.

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.

OTHER INFORMATION:

The information in this MSDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's

control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the MSDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the MSDS. The user should review these regulations to ensure full compliance.

Prepared by Shanghai M&U International