



## Safety Data Sheet

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### Section 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Biphenyl

SDS No. : 0885E-3

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

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

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### Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Carcinogenicity: Category 1B

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

Specific target organ toxicity – repeated exposure: Category 1 (liver, nervous system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 1

Hazardous to the aquatic environment, long-term (chronic): Category 1

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

H350 May cause cancer

H335 May cause respiratory irritation

H372 Causes damage to organs through prolonged or repeated exposure (liver, nervous system)

H410 Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

P202 Do not handle until all safety precautions have been read and understood.

P273 Avoid release to the environment.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P264 Wash contaminated parts thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P270 Do not eat, drink or smoke when using this product.

Response



P391 Collect spillage.

P314 Get medical advice/attention if you feel unwell.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P312 Call a POISON CENTER/doctor/physician if you feel unwell.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

#### Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

#### Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

#### Specific adverse human health effects

See "11. Toxicological Information".

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### Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Biphenyl	≥ 98	92-52-4	4-13	C <sub>6</sub> H <sub>5</sub> C <sub>6</sub> H <sub>5</sub>

Note : The figures shown above are not the specifications of the product.

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### Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN

Take off immediately all contaminated clothing. Rinse skin with water or shower.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Call a POISON CENTER/doctor/physician if you feel unwell.

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### Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture



Fire may produce irritating, corrosive and/or toxic gases.  
Runoff from fire control or dilution water may cause pollution.  
See "10.Stability and Reactivity".

**Advice for firefighters**

**Specific fire-fighting measures**

Evacuate non-essential personnel to safe area.

**Special protective equipment and precautions for fire-fighters**

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

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**Section 6. Accidental release measures**

**Personnel precautions, protective equipment and emergency procedures**

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

**Environmental precautions**

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

**Methods and materials for containment and cleaning up**

Sweep up, place in a bag and hold for waste disposal.

**Preventive measures for secondary accident**

Collect spillage.

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**Section 7. Handling and storage**

**Precautions for safe handling**

**Preventive measures**

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

**Safety Measures**

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash hands et al thoroughly after handling.

When using do not eat, drink or smoke.

**Any incompatibilities**

See "10.Stability and Reactivity".

**Advice on general occupational hygiene**

Wash contaminated parts thoroughly after handling.



Do not eat, drink or smoke when using this product.

#### Storage

##### Conditions for safe storage

Keep container tightly closed.

Store locked up. (P405)

Store in a cool, dry place. Do not store in direct sunlight.

Storage in accordance with local/national regulation.

##### Container and packaging materials for safe handling

Use closed unbreakable containers.

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## Section 8. Exposure controls/personal protection

### Control parameters

#### Control value and Concentration standard value

Concentration standard value TWA: 3mg/m<sup>3</sup>

#### Adopted value

ACGIH(1987) TWA: 0.2ppm (Pulm func)

### Exposure controls

#### Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

#### Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

#### Hand protection

Wear impervious protective glove.

#### Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

#### Skin and body protection

Wear protective clothing.

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## Section 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Physical state: Crystals

Color: Colorless to white

Odor: Characteristic odor

Melting point/Freezing point: 70°C

Boiling point or initial boiling point: (Biphenyl)256°C

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit:

Lower explosion limit: (111°C) 0.6 vol %

Upper explosion limit: (166°C) 5.8 vol %

Flash point: (Biphenyl)(C.C.) 113°C

Auto-ignition temperature: (Biphenyl)540°C



Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 0.0004g/100 ml (20 °C)

Solubility in solvent data is not available.

n-Octanol/water partition coefficient: log Pow3.16/4.09

Vapor pressure: 1.19 Pa (25°C)

Density and/or relative density: 1.04

Relative vapor density (Air=1): 5.3

Relative density of the Vapor/air – mixture at 20°C (Air = 1): 1

Particle characteristics data is not available.

Other information

Other information is not available.

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## Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Dust explosion possible if in powder or granular form, mixed with air.

Reacts with oxidants. (ICSC 0106)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Oxidizing agents

Hazardous decomposition products

Carbon oxides

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## Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[NITE-CHRIIP]

rat LD50: 2140 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Data for components of the product]

[NITE-CHRIIP]

rabbit LD50: 2500 mg/kg (source: NITE)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation data is not available.

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity



## [Product]

Category 1B, May cause cancer

## [Data for components of the product]

## [NITE-CHRIP]

Category 1B (source: NITE)

Reproductive toxicity data is not available.

Specific target organ toxicity (STOT)

STOT-single exposure

## [Product]

Category 3, May cause respiratory irritation

## [Data for components of the product]

## [NITE-CHRIP]

Category 3 (Respiratory tract irritation) (source: NITE)

STOT-repeated exposure

## [Product]

Category 1, Causes damage to organs through prolonged or repeated exposure

## [Data for components of the product]

## [NITE-CHRIP]

Category 1 (liver, nervous system) (source: NITE)

Aspiration hazard data is not available.

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**Section 12. Ecological Information**

## Toxicity

## Aquatic toxicity

## [Product]

Category 1, Very toxic to aquatic life

Category 1, Very toxic to aquatic life with long lasting effects

## [Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

## [NITE-CHRIP]

Fish (*Oryzias latipes*) 96-hour LC50: 3.9 mg/L (OECD TG 203, GLP) (source: NITE)Crustacea (*Daphnia magna*) 48-hour EC50: 0.36 mg/L (internal SOP of the DOW Chemical Company, GLP) (source: NITE)Algae (*Raphidocelis subcapitata*) 72-hour ErC50: 0.78 mg/L (OECD TG 201, GLP) (source: NITE)

Hazardous to the aquatic environment, long-term (chronic)

## [NITE-CHRIP]

Fish (*Oncorhynchus mykiss*) 87-day NOEC: 0.229 mg/L (GLP) (source: NITE)Crustacea (*Daphnia magna*) 21-day NOEC: 0.13 mg/L (OECD TG 211, GLP) (source: NITE)Algae (*Raphidocelis subcapitata*) 72-hour NOErC: 0.0070 mg/L (OECD TG 201, GLP) (source: NITE)

## Water solubility

0.0004 g/100 mL (20°C) (source: ICSC, 2006)

## Persistence and degradability

## [Data for components of the product]

Rapidly degradable (A 14-day degradation rate: 66% (by BOD)) (OECD TG 301C) (source: NITE)

## Bioaccumulative potential

Bioaccumulative potential data is not available.

## Mobility in soil

Mobility in soil data is not available.



Other adverse effects

Ozone depleting chemical data is not available.

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**Section 13. Disposal considerations**

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment.

Dispose of contents/container as industrial waste. Accordance with local/national regulation.

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**Section 14. Transport Information**

UN Number or ID Number : 3077

UN Proper Shipping Name :

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division (Transport hazard class) : 9

Packing group : III

ERG GUIDE No.: 171

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 3077

UN Proper Shipping Name :

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division (Transport hazard class) : 9

Packing group : III

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 3077

UN Proper Shipping Name :

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division (Transport hazard class) : 9

Hazard labels : Miscellaneous & Environmentally hazardous

Packing group : III

Environmental hazards

Marine pollutants (yes/no) : yes

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**Section 15. Regulatory Information**

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Applicable

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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**Section 16. Other information**

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN



Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN  
IMDG Code, 2022 Edition (Incorporating Amendment 41-22)  
IATA Dangerous Goods Regulations (65th Edition) 2024  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2024 TLVs and BEIs. (ACGIH)  
JIS Z 7252 : 2019  
JIS Z 7253 : 2019  
2023 Recommendation on TLVs (JSOH)  
Supplier's data/information

General Disclaimer

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Please provide SDS to customers for selling or transferring.

All chemicals have unknown hazard. Handle the product with care.

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).