



MATERIAL SAFETY DATA SHEET SDS/MSDS

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

1.1 Product identifiers

Product name : Biphenyl

CAS-No. : 92-52-4

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

Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet

Company : Bio-Chem Chemicals
5455, Nicholson Road,
Science Market,
Ambala Cantt. 133001 Haryana (India)
+91-82952 41953
info@biofinechemical.com - www.biofinechemical.com

1.4 Emergency telephone number

Emergency Phone # : +91 99921 51495 (10.00am - 06.30pm) (Office Hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Specific target organ toxicity - single exposure (Category 3), H335

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xi Irritant R36/37/38

N Dangerous for the environment R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Warning

Hazard statement(s)

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P261

Avoid breathing dust.

P273

Avoid release to the environment.

P305 + P351 + P338

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

P501

Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements

none

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	:	C ₁₂ H ₁₀
Molecular weight	:	154,21 g/mol
CAS-No.	:	92-52-4
EC-No.	:	202-163-5
Index-No.	:	601-042-00-8

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component		Classification	Concentration
Biphenyl			
CAS-No.	92-52-4	Skin Irrit. 2; Eye Irrit. 2; STOT	<= 100 %
EC-No.	202-163-5	SE 3; Aquatic Acute 1; Aquatic	
Index-No.	601-042-00-8	Chronic 1; H315, H319, H335, H410	

Hazardous ingredients according to Directive 1999/45/EC

Component		Classification	Concentration
Biphenyl			
CAS-No.	92-52-4	Xi, N, R36/37/38 - R50/53	<= 100 %
EC-No.	202-163-5		
Index-No.	601-042-00-8		

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

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

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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a 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.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

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

For personal protection see section 8.

6.2 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.

6.3 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.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

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 Control parameters

Components with workplace control parameters

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

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin 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.

Body Protection

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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	Form: crystalline powder/flakes Colour: light yellow
b) Odour	characteristic
c) Odour Threshold	No data available
d) pH	5,5
e) Melting point/freezing point	Melting point/range: 68 - 72 °C - lit.
f) Initial boiling point and boiling range	255 °C - lit.
g) Flash point	110 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 5,8 %(V) Lower explosion limit: 0,6 %(V)
k) Vapour pressure	0,04 hPa at 20 °C 5,5 hPa at 100 °C 12,6 hPa at 115 °C 95,7 hPa at 166 °C

l)	Vapour density	No data available
m)	Relative density	0,992 g/cm ³
n)	Water solubility	0,0075 g/l at 15 °C
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

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 recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 2.140 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Muscle weakness.

Gastrointestinal disturbance

Inhalation: No data available

LD50 Dermal - Rabbit - > 5.010 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 24 h

(Draize Test)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation

(Draize Test)

Respiratory or skin sensitisation

- Guinea pig

Remarks: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Mouse

lymphocyte

DNA damage

Mouse

lymphocyte

Mutation in mammalian somatic cells.

Hamster

Lungs

Mutation in microorganisms

Hamster

fibroblast

Sister chromatid exchange

Rat

Unscheduled DNA synthesis

Mouse

DNA damage

Carcinogenicity

Carcinogenicity - Mouse - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Blood: Tumors.

Carcinogenicity - Mouse - Subcutaneous

Tumorigenic: Neoplastic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Liver: Tumors.

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.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: DU8050000

Liver injury may occur., Gastrointestinal disturbance

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 1,45 mg/l - 96,0 h
	LC0 - Danio rerio (zebra fish) - 38 mg/l - 96,0 h
	LC50 - Salmo gairdneri - 1,5 mg/l - 96,0 h
	LC50 - Lepomis macrochirus (Bluegill) - 4,7 mg/l - 96,0 h
Toxicity to daphnia and other aquatic invertebrates	LC50 - Daphnia magna (Water flea) - 0,36 mg/l - 48 h

12.2 Persistence and degradability

Biodegradability

(Closed Bottle test)

Remarks: According to the results of tests of biodegradability this product is considered as being readily biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation

Leuciscus idus (Golden orfe) - 3 d
- 50 µg/l

Bioconcentration factor (BCF): 281

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Very toxic to aquatic life.

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

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. (Biphenyl)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Biphenyl)

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

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: ves

IMDG Marine pollutant: yes

IATA: yes

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

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

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

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute	Acute aquatic toxicity
1. Acute toxicity to aquatic organisms, such as fish and invertebrates, is defined as the adverse effects that occur within a short time period (usually 96 hours) following exposure to a chemical. 2. Acute toxicity is typically measured by the LC50 (lethal concentration 50%) or LD50 (lethal dose 50%), which is the concentration or dose of a chemical that causes the death of 50% of the test organisms. 3. Acute toxicity is often used to assess the potential for a chemical to cause immediate harm to aquatic life.	1. Acute aquatic toxicity refers to the adverse effects of a chemical on aquatic organisms that occur within a short time period (usually 96 hours) following exposure to a chemical. 2. Acute aquatic toxicity is typically measured by the LC50 (lethal concentration 50%) or LD50 (lethal dose 50%), which is the concentration or dose of a chemical that causes the death of 50% of the test organisms. 3. Acute aquatic toxicity is often used to assess the potential for a chemical to cause immediate harm to aquatic life.

Aquatic Chronic Chronic aquatic toxicity

Eye Irrit.	Eye irritation
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H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Full text of R-phrases referred to under sections 2 and 3

N Dangerous for the environment

Xi	Irritant
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R36/37/38 Irritating to eyes, respiratory system and skin.

R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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