

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Biphenyl

Product Number : B34656
Brand : Sigma-Aldrich

Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
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Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Target Organ Effect, Irritant

Target Organs

Liver, Central nervous system, Peripheral nervous system.

GHS Classification

Acute toxicity, Oral (Category 5)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 3)
Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H303 May be harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
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.

HMIS Classification

Health hazard: 2
Chronic Health Hazard: *
Flammability: 1
Physical hazards: 0

NFPA Rating

Health hazard: 2
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/INFORMATION ON INGREDIENTS

Formula : C₁₂H₁₀
Molecular Weight : 154.21 g/mol

Component	Concentration
Biphenyl	
CAS-No. 92-52-4	-
EC-No. 202-163-5	
Index-No. 601-042-00-8	

4. FIRST AID MEASURES

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

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.

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

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 fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

6. ACCIDENTAL RELEASE MEASURES

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.

Colour light yellow

Safety data

pH	5.5
Melting point/freezing point	Melting point/range: 68 - 70 °C (154 - 158 °F) - lit.
Boiling point	255 °C (491 °F) - lit.
Flash point	110 °C (230 °F) - closed cup
Ignition temperature	540 °C (1,004 °F)
Autoignition temperature	no data available
Lower explosion limit	0.6 %(V)
Upper explosion limit	5.8 %(V)
Vapour pressure	0.04 hPa (0.03 mmHg) at 20 °C (68 °F) 5.5 hPa (4.1 mmHg) at 100 °C (212 °F) 12.6 hPa (9.5 mmHg) at 115 °C (239 °F) 95.7 hPa (71.8 mmHg) at 166 °C (331 °F)
Density	0.992 g/cm ³
Water solubility	0.0075 g/l at 15 °C (59 °F)
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	characteristic
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - rat - 2,140 mg/kg

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

Inhalation LC50

Dermal LD50

LD50 Dermal - rabbit - > 5,010 mg/kg

Other information on acute toxicity

no data available

Skin corrosion/irritation

Skin - rabbit - Severe skin irritation - 24 h - Draize Test

Serious eye damage/eye irritation

Eyes - rabbit - Mild eye irritation - Draize Test

Respiratory or skin sensitization

guinea pig -

Remarks: Did not cause sensitization on laboratory animals.

Germ cell mutagenicity

Genotoxicity in vitro - mouse - lymphocyte
DNA damage

Genotoxicity in vitro - mouse - lymphocyte
Mutation in mammalian somatic cells.

Genotoxicity in vitro - Hamster - Lungs
Mutation in microorganisms

Genotoxicity in vitro - Hamster - fibroblast
Sister chromatid exchange

Genotoxicity in vivo - rat - Oral
Unscheduled DNA synthesis

Genotoxicity in vivo - mouse - Oral
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.

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.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

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

Liver injury may occur., Gastrointestinal disturbance

Synergistic effects

no data available

Additional Information

RTECS: DU8050000

12. ECOLOGICAL INFORMATION**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

Persistence and degradability

Biodegradability	Method: Closed Bottle test Remarks: According to the results of tests of biodegradability this product is considered as being readily biodegradable.
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Bioaccumulative potential

Bioaccumulation	Leuciscus idus (Golden orfe) - 3 d Bioconcentration factor (BCF): 281
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Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS**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. TRANSPORT INFORMATION**DOT (US)**

UN number: 3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Biphenyl)

Reportable Quantity (RQ): 100 lbs
Marine pollutant: Marine pollutant
Poison Inhalation Hazard: No

IMDG

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Biphenyl)
Marine pollutant: Marine pollutant

IATA

UN number: 3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Biphenyl)

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

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Biphenyl	92-52-4	2007-07-01

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Biphenyl	92-52-4	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Biphenyl	92-52-4	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Biphenyl	92-52-4	2007-07-01

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.

16. OTHER INFORMATION

Further information

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