

## Chemical Safety Data Sheet MSDS / SDS

## 2-chlorobiphenyl SDS

Revision Date:2024-04-25 Revision Number:1

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

Product name: 2-chlorobiphenyl  
CAS: 2051-60-7

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.  
Uses advised against: none

**Company Identification**

Company: Chemicalbook.in  
Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090  
Telephone: +91 9550333722

**SECTION 2: Hazards identification****Classification of the substance or mixture**

Specific target organ toxicity - repeated exposure, Category 2  
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

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

**GHS label elements, including precautionary statements**

Pictogram(s)



Signal word

Warning

**Hazard statement(s)**

H373 May cause damage to organs through prolonged or repeated exposure

H410 Very toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

**Prevention**

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

P273 Avoid release to the environment.

**Response**

P319 Get medical help if you feel unwell.

P391 Collect spillage.

**Storage**

none

**Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in classification**

no data available

**SECTION 3: Composition/information on ingredients**

**Substance**

Chemical name:	2-chlorobiphenyl
Common names and synonyms:	2-chlorobiphenyl
CAS number:	2051-60-7
EC number:	218-125-6
Concentration:	100%

## SECTION 4: First aid measures

### Description of necessary first-aid measures

#### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### Most important symptoms/effects, acute and delayed

no data available

### Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. PCBs, PBBs, PCDFs, and Related Compounds

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Use dry chemical, carbon dioxide, or alcohol foam extinguishers. Vapors are heavier than air and will collect in low areas. Vapors in confined areas may explode when exposed to fire. Containers may explode in fire. Storage containers and parts of containers may rocket great distances, in many directions. If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Notify local health and fire officials and pollution control agencies. From a secure, explosion-proof location, use water spray to cool exposed containers. If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors, or shows any signs of deforming), withdraw immediately to a secure position ... The only respirators recommended for fire fighting are self-contained breathing apparatuses that have full facepieces and are operated in a pressure-demand or other positive pressure mode. Polychlorinated biphenyls

### Specific hazards arising from the chemical

no data available

### Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Evacuate and restrict persons not wearing protective equipment from area of spill or leak until cleanup is complete. Remove all ignition sources. Ventilate area of spill or leak. Absorb liquids in vermiculite, dry sand, earth, peat, carbon, or a similar material

and deposit in sealed containers. Keep this chemical out of a confined space, such as a sewer, because of the possibility of an explosion, unless the sewer is designed to prevent the build-up of explosive concentrations. It may be necessary to contain and dispose of this chemical as a hazardous waste. If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Contact your Department of Environmental Protection or your regional office of the federal EPA for specific recommendations ... Spills of one pound or more must be reported to the EPA. Polychlorinated biphenyls

## SECTION 7: Handling and storage

### Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in a cool, well-ventilated area away from strong oxidizers (such as chlorine, bromine, and fluorine). A regulated marked area should be established where this chemical is handled, used, or stored ... Polychlorinated biphenyls

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Occupational Exposure limit values

Component	2-chlorobiphenyl
CAS No.	2051-60-7
	NIOSH considers chlorodiphenyl containing 54% chlorine to be a potential occupational carcinogen. /Aroclor 1254/ NIOSH usually recommends that occupational exposures to carcinogens be limited to the lowest feasible concentration. /Aroclor 1254/ Recommended Exposure Limit: 10 Hour Time-Weighted Average: 0.001 mg/cu m. /Aroclor 1254/

### Biological limit values

no data available

### Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

## Individual protection measures, such as personal protective equipment (PPE)

### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Colorless to pale-yellow, viscous liquid or solid (below 50°F) with a mild, hydrocarbon odor.
Colour:	Clear oil
Odour:	no data available
Melting point/freezing point:	32-34°C
Boiling point or initial boiling point and boiling range:	274°C at 760 mmHg
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	115.9°C

Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	Saybolt sec at 37.8 deg C; 39-41 Saybolt sec at 54.4 deg C; 31-32 Saybolt sec at 98.9 deg C
Solubility:	Solubility in water varies because Aroclors are variable mixtures.
Partition coefficient n-octanol/water:	log Kow = >4.54
Vapour pressure:	0.00928mmHg at 25°C
Density and/or relative density:	1.131 g/cm <sup>3</sup>
Relative vapour density:	no data available
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

NIOSH considers chlorodiphenyl containing 54% chlorine to be a potential occupational carcinogen. Aroclor 1254

### Chemical stability

PCB's are chemically very inert and are stable to conditions of hydrolysis and oxidation in industrial use. ... Polychlorinated biphenyls

### Possibility of hazardous reactions

PCBs may burn but do not easily ignite. Polychlorinated biphenyls

### Conditions to avoid

no data available

#### **Incompatible materials**

Incompatibilities: strong oxidizers. Polychlorinated biphenyls

#### **Hazardous decomposition products**

When heated to decomposition they emit toxic fumes of Chlorine. Polychlorinated biphenyls

### **SECTION 11: Toxicological information**

#### **Acute toxicity**

Oral: LD50 Rat oral 4470 mg/kg

Inhalation: no data available

Dermal: no data available

#### **Skin corrosion/irritation**

no data available

#### **Serious eye damage/irritation**

no data available

#### **Respiratory or skin sensitization**

no data available

#### **Germ cell mutagenicity**

no data available

#### **Carcinogenicity**

Classification of carcinogenicity: 1) evidence in humans: limited; 2) evidence in animals: sufficient. Overall summary evaluation of carcinogenic risk to humans is Group 2A: The agent is probably carcinogenic to humans. Polychlorinated biphenyls; from table



**Reproductive toxicity**

no data available

**STOT-single exposure**

no data available

**STOT-repeated exposure**

no data available

**Aspiration hazard**

no data available

**SECTION 12: Ecological information****Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (water flea, age <24 hr); Conditions: freshwater, static, 18 deg C, pH 7.5-8.0, hardness 44-46 mg/L CaCO<sub>3</sub>, alkalinity 40-43 mg/L CaCO<sub>3</sub>, acidity 2.4-4.0 ppm, Ca hardness 34-36 ppm; Concentration: 125 ug/L for 21 days; Effect: reproduction, general /formulated product

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

**Persistence and degradability**

AEROBIC: Aroclor 1232 had 100% reported biodegradation in screening tests utilizing BOD dilution water, settled domestic wastewater inoculum, incubated for 28 days at both 5 and 10 ppm starting concentrations(1). The chlorinated congeners in PCBs have been shown to be susceptible to reductive dechlorination by anaerobic microorganisms found in aquatic sediments(2).

**Bioaccumulative potential**

BCF Catostomus commersoni (white sucker) 5,500 whole body, 30 day

**Mobility in soil**

Using a structure estimation method based on molecular connectivity indices(1), the Koc for a representative component of Aroclor 1232 can be estimated to be 8400(SRC). According to a classification scheme(2), this estimated Koc value suggests that Aroclor 1232 is expected to be immobile in soil. PCBs, such as Aroclor 1232, are readily adsorbed onto solids (especially organic matter) and are often immobilized in sediment, although eventual re-resolution into the water column can occur(3).

#### **Other adverse effects**

no data available

### **SECTION 13: Disposal considerations**

#### **Disposal methods**

##### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

##### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

### **SECTION 14: Transport information**

#### **UN Number**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

#### **UN Proper Shipping Name**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

#### **Transport hazard class(es)**

ADR/RID: no data available  
IMDG: no data available  
IATA: no data available

**Packing group, if applicable**

ADR/RID: no data available  
IMDG: no data available  
IATA: no data available

**Environmental hazards**

ADR/RID: Yes  
IMDG: Yes  
IATA: Yes

**Special precautions for user**

no data available

**Transport in bulk according to IMO instruments**

no data available

**SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Not Listed.

**China Catalog of Hazardous chemicals 2015**

Not Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Not Listed.

**(PICCS)**

Not Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Not Listed.

**Korea Existing Chemicals List (KECL)**

Not Listed.

## **SECTION 16: Other information**

### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### **References**

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

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