SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0
Creation Date: July 15, 2019
Revision Date: July 15, 2019

SECTION 1: Identification

1.1 GHS Product identifier

Product name Biphenyl-2-ol

1.2 Other means of identification

Product number -
Other names ORTHO-PHENYLPHENOL,SODIUMSALT; 2-HYDROXY DIPHENYL; 2-HYDROXYBIPHENYL (2-PHENYLPHENOL)

1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.
Uses advised against no data available

1.4 Supplier's details

Company Shanghai Yien Chemical Technology Co., Ltd
Address Building 6, 28 Yingong Road, Fengxian District, Shanghai Chemical Industry Zone, Shanghai, 201400, China
Telephone +86-400-133-2688

1.5 Emergency phone number

Emergency phone number +86-400-133-2688
Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Skin irritation, Category 2
Eye irritation, Category 2
Specific target organ toxicity – single exposure, Category 3
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

2.2 GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning
Hazard statement(s) H315 Causes skin irritation

H319 Causes serious eye irritation
H335 May cause respiratory irritation
H400 Very toxic to aquatic life

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.

Response

P302+P352 IF ON SKIN: Wash with plenty of water/...
P321 Specific treatment (see ... on this label).
P332+P317 If skin irritation occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P319 Get medical help if you feel unwell.
P391 Collect spillage.

Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

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.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Biphenyl-2-ol	Biphenyl-2-ol	90-43-7	201-993-5	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Seek medical attention if you feel unwell.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap. Seek medical attention if you feel unwell.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Seek medical attention if you feel unwell.

4.2 Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms of exposure to this compound include eye irritation with possible corneal injury (necrosis); paleness, cyanosis, weakness, sweating, headache, diarrhea, nausea, vomiting, diarrhea, dizziness, fainting, dark urine, central nervous system depression, and deoxyribonuclease inhibition. Chronic exposure may include irritation and

lesions of the respiratory system. ACUTE/CHRONIC HAZARDS: This chemical is a skin and eye irritant. Corneal damage is possible upon eye contact. First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop. (NTP, 1992)

4.3 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. Phenols and related compounds

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance. DOWICIDE* 1 ANTIMICROBIAL

5.2 Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

5.3 Special protective actions for fire-fighters

Use water spray, powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames. Prevent deposition of dust. 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.

7.2 Conditions for safe storage, including any incompatibilities

Separated from strong oxidants, strong bases and food and feedstuffs. Store only in original container. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.Store in tightly closed containers in a cool, well-ventilated area away from water. Sources of ignition, such as smoking and open flames, are prohibited where o-phenylphenol is used, handled, or stored in a manner that could create a potential fire or explosion hazard.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

Component	Biphenyl-2-ol			
CAS No.	90-43-7			
	Limit value - Eight hours		**Limit value - Short term**	
	ppm	**mg/m^3**	**ppm**	**mg/m^3**
Germany (AGS)		5 (1)		5 (1)(2)
Germany (DFG)		5 (1)		5 (1)(2)
	Remarks			
Germany (AGS)	(1) Inhalable fraction and vapour (2) 15 minutes average value			
Germany (DFG)	(1) Inhalable fraction (2) 15 minutes average value			

Biological limit values

no data available

8.2 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.

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

Eye/face protection

Wear safety goggles or face shield.

Skin protection

Protective gloves.

Respiratory protection

Avoid inhalation of dust and mist. Use ventilation (not if powder), local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Solid.
Colour	Needles from petroleum ether

Odour	Mild characteristic odor
Melting point/freezing point	56.7 °C.
Boiling point or initial boiling point and boiling range	287 °C.
Flammability	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit	no data available
Flash point	124°C
Auto-ignition temperature	Ignition temperature: >=520 degree C
Decomposition temperature	no data available
pH	5.8. Remarks:Test item.
Kinematic viscosity	no data available
Solubility	less than 0.1 mg/mL at 68.9° F (NTP, 1992)
Partition coefficient n-octanol/water	log Pow = 3.18. Temperature:22.5 °C.
Vapour pressure	0.474 Pa. Temperature:20 °C.;0.906 Pa. Temperature:25 °C.
Density and/or relative density	1.24. Temperature:20 °C.
Relative vapour density	no data available
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Reacts with strong bases and strong oxidants. Decomposes on heating. This produces carbon dioxide, carbon monoxide and irritating fumes.

10.2 Chemical stability

Stable at normal conditions.

10.3 Possibility of hazardous reactions

This chemical is a combustible solid.Dust explosion possible if in powder or granular form, mixed with air.2-PHENYLPHENOL react as a weak organic acid. Exothermically neutralizes bases. May react with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides to generate flammable gas (H2) and the heat of the reaction may ignite the gas. Is sulfonated very readily (for example, by concentrated sulfuric acid at room temperature) in exothermic reactions. May be nitrated very rapidly. Nitrated phenols often explode when heated and also form metal salts that tend toward detonation by rather mild shock. Can react with oxidizing agents (NTP, 1992).

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Strong oxidizers, acids, alkalis.

10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male/female) - 2 733 mg/kg bw.
- Inhalation: LC50 - rat (male/female) - > 36 mg/m³ air.

- Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

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

Cancer Classification: Not Likely to be Carcinogenic to Humans

Reproductive toxicity

no data available

STOT-single exposure

The substance is severely irritating to the eyes. The substance is irritating to the skin and respiratory tract.

STOT-repeated exposure

Tumours have been detected in experimental animals but may not be relevant to humans.

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying or when dispersed, especially if powdered.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 - Danio rerio (previous name: Brachydanio rerio) - 4.5 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: NOEC - Daphnia magna - 0.78 mg/L - 48 h.
- Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 3.57 mg/L - 72 h.
- Toxicity to microorganisms: EC50 - activated sludge of a predominantly domestic sewage - 56 mg/L - 3 h. Remarks:Respiration rate.

12.2 Persistence and degradability

Persistence of 50 ppm o-phenylphenol in an activated sludge screening test was less than 9 days(1); an initial concn of 50 ppm was reduced 30% in 7 days in an anaerobic digestion test(1); an initial concn of 100 ppm was reduced 43% in 54 hr in an aerated lagoon simulation(1); an initial concn of 100 ppm was reduced 20% in 168 hr in retention pond simulation(1). Acclimated treatment plant cultures completely degraded 50 ppm o-phenylphenol within 30 hr in a BOD study(2). In an aerobic BOD dilution study using an activated sludge inocula, 100-150 ppm were completely degraded in 8-16 days, although lag periods of 5-13 days were observed(3). Five-day theoretical BODs of 1.2-29.7% were measured using 1-50 ppm o-phenylphenol with the theoretical BOD generally decreasing with an increase in concn(4). In Sapromat respirometer studies using industrial activated sludge, inoculum from a communal clarification plant, or a sewage inocula, 5-day theoretical BODs ranged from 50-100%(5).

12.3 Bioaccumulative potential

An estimated BCF of 51 was calculated for o-phenylphenol(SRC), using a log Kow of 3.09(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is moderate.

However, bioconcentration studies on compounds which are structurally similar suggest that bioconcentration may be lower than that indicated by the regression-derived equations due to the ability of aquatic organisms to readily metabolize this class of compounds. Animals excrete o-phenylphenol as the parent compound and as the glucuronide and sulfate conjugates(4).

12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc for o-phenylphenol can be estimated to be 6,700(SRC). According to a classification scheme(2), this estimated Koc value suggests that o-phenylphenol is expected to be immobile in soil. In laboratory aqueous sorption studies using two types of bentonite clay, between 47 and 96.4 percent of added o-phenylphenol was sorbed after 24 hr(3).

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 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

14.1 UN Number

ADR/RID: UN3077 (For reference only, please check.)	IMDG: UN3077 (For reference only, please check.)	IATA: UN3077 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)	IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)	IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)	IMDG: 9 (For reference only, please check.)	IATA: 9 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.)	IMDG: III (For reference only, please check.)	IATA: III (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: Yes	IMDG: Yes	IATA: Yes

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

Chemical name	Common names and synonyms	CAS number	EC number
Biphenyl-2-ol	Biphenyl-2-ol	90-43-7	201-993-5
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

Creation Date	July 15, 2019
Revision Date	July 15, 2019

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
- 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/

Other Information

Carrier solvents used in commercial formulations may change physical and toxicological properties.

Any questions regarding this SDS, Please send your inquiry to sds@xixisys.com

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