



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 16-Aug-2018

Version 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Biphenyl
Product Code SC-214602

Recommended use of the chemical and restrictions on use

For research use only. Not intended for diagnostic or therapeutic use.

Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc.
10410 Finnell Street
Dallas, TX 75220
831.457.3800
800.457.3801
scbt@scbt.com

Emergency telephone number

Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification

Skin corrosion/irritation
Serious eye damage/eye irritation
Specific target organ toxicity (single exposure)

Category 2
Category 2A
Category 3

Label elements

Signal word
Hazard statements

Warning
May be harmful if swallowed
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation

Symbols/Pictograms



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

Use only outdoors or in a well-ventilated area
IF exposed or concerned: 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 ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Storage



Precautionary Statements - Disposal

Store locked up
Dispose of contents/container to an approved waste disposal plant**Hazards not otherwise classified (HNOC)**

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

Other hazards

Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

NFPA

Health hazards	2
Flammability	1
Stability	0
Physical and chemical properties	-

**HMIS**

Health hazards	2
Flammability	1
Physical hazards	0
Personal protection	-

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No	92-52-4
Molecular Weight	154.21
Formula	C ₁₂ H ₁₀

Chemical name	CAS No.	Weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Biphenyl	92-52-4	>98	= 2140 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	-

4. FIRST AID MEASURES**First Aid Measures**

General advice	Consult a physician if necessary. Remove to fresh air.
Eye contact	Wash with plenty of water.
Skin Contact	Wash skin with soap and water.
Inhalation	Remove to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration
Ingestion	Never give anything by mouth to an unconscious person. Clean mouth with water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical No information available.

Hazardous combustion products Carbon oxides.

**Explosion data**

Sensitivity to Mechanical Impact No information available.
Sensitivity to Static Discharge No information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.
Methods for cleaning up Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature.

Incompatible materials None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Guidelines .

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Biphenyl 92-52-4	TWA: 0.2 ppm	TWA: 0.2 ppm TWA: 1 mg/m ³ (vacated) TWA: 0.2 ppm (vacated) TWA: 1 mg/m ³	IDLH: 100 mg/m ³ TWA: 0.2 ppm TWA: 1 mg/m ³

NIOSH IDLH *Immediately Dangerous to Life or Health*

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment



Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and Body Protection	Wear protective gloves and protective clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	crystalline powder or flakes
Odor	No information available

<u>Property</u>	<u>Values</u>
pH	No information available
Melting point/freezing point	68 °C
Boiling point	255 °C
Flash point	110 °C CC (closed cup)
Liquid Density	0.992 g/cm ³
Evaporation rate	No information available
Upper flammability limits	5.8%
Lower flammability limit	0.6%
Vapor pressure	0.03 mmHg
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	4.008
Autoignition temperature	566 °C
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

10. STABILITY AND REACTIVITY

Reactivity	Not applicable
Chemical stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	No information available.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	Strong oxidizing agents.
Hazardous Decomposition Products	Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	No data available.
Eye contact	No data available.
Skin Contact	No data available.
Ingestion	No data available.

**Information on toxicological effects**

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity May cause adverse liver effects.

Target Organ Effects Central nervous system, Eyes, Respiratory system, Liver.

Numerical measures of toxicity - Product Information

Unknown acute toxicity No information available

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 2140 mg/kg

ATEmix (dermal) 5015 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects

Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Biphenyl 92-52-4	1.28: 3 h Chlamydomonas angulosa mg/L EC50	1.65 - 2.29: 96 h Pimephales promelas mg/L LC50 flow-through 1.4 - 1.6: 96 h Oncorhynchus mykiss mg/L LC50 static 4.3 - 5.1: 96 h Lepomis macrochirus mg/L LC50 static 1.17 - 1.81: 96 h Pimephales promelas mg/L LC50 static	-	0.63 - 0.85: 48 h Daphnia magna mg/L EC50 Static

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Persistence and degradability No information available.

Bioaccumulation No information available.

Mobility No information available.

Chemical name	Partition coefficient
Biphenyl 92-52-4	4

13. DISPOSAL CONSIDERATIONS

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION**DOT**

UN/ID no UN3077

Hazard Class 9

Packing Group III

Proper shipping name Environmentally hazardous substance, solid, n.o.s.

Reportable Quantity (RQ) (Biphenyl: RQ (kg)= 45.40)

Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Biphenyl), 9, III, Marine pollutant



Marine pollutant This product contains a chemical which is listed as a marine pollutant according to DOT
 Emergency Response Guide Number 171

IMDG

UN/ID no UN3077
 Hazard Class 9
 Packing Group III
 Proper shipping name Environmentally hazardous substance, solid, n.o.s.
 Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Biphenyl), 9, III, Marine pollutant
 Special Provisions 274, 335, 966, 967, 969
 EmS-No F-A, S-F
 Marine pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

IATA

UN/ID no UN3077
 Hazard Class 9
 Packing Group III
 Proper shipping name Environmentally hazardous substance, solid, n.o.s.
 Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Biphenyl), 9, III
 ERG Code 9L

15. REGULATORY INFORMATION

International Inventories

All of the components in the product are on the following Inventory lists

TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): China (IECSC)
 ENCS (Japan): Philippines (PICCS)

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Biphenyl	X	X	-	X	-	X	X	X	X	X

X - Listed

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard Yes
 Chronic Health Hazard No
 Fire hazard No
 Sudden release of pressure hazard No
 Reactive hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

US State Regulations

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Biphenyl 92-52-4	X	X	X

16. OTHER INFORMATION

Revision note

No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet