SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.
Revision date 12-Oct-2018
Version 1

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

Product identifier

Product Name	1,10-Phenanthroline
Product Code	SC-255888

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

Acute toxicity - Oral	Category 3

Label elements

Signal word	Danger
Hazard statements	Toxic if swallowed
Symbols/Pictograms	
Precautionary Statements - Prevention	Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product
Precautionary Statements - Response	IF exposed or concerned: Get medical advice/attention IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Rinse mouth
Precautionary Statements - Storage	Store locked up
Precautionary Statements - Disposal	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			**HMIS**		
	Health hazards	-		Health hazards	-
	Flammability	-		Flammability	-
	Stability	-		Physical hazards	-
	Physical and chemical properties	-		Personal protection	-

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No	66-71-7
Molecular Weight	180.21
Formula	$C_{12}H_8N_2$

Chemical name	CAS No.	Weight-%	Oral LD50	Dermal LD50	Inhalation LC50
1,10-Phenanthroline	66-71-7	>98	= 132 mg/kg (Rat)	-	-

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. Nitrogen oxides (NOx).

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	Protect from moisture. Store at room temperature.
Incompatible materials	None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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	powder
Odor	No information available

Property	**Values**
pH	No information available

Melting point/freezing point	114 °C
Boiling point	No information available
Flash point	No information available
Liquid Density	No information available
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	114 ° C
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	Exposure to air or moisture over prolonged periods.
Incompatible materials	Strong oxidizing agents.
Hazardous Decomposition Products	Carbon oxides. Nitrogen oxides (NOx).

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	No information available.

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)	132 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity	Very toxic to aquatic life with long lasting effects

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.

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	UN2811
Hazard Class	6.1
Packing Group	III
Proper shipping name	Toxic solids, organic, n.o.s.
Description	UN2811, Toxic solids, organic, n.o.s. (1,10-Phenanthroline), 6.1, III
Emergency Response Guide Number	154

IMDG

UN/ID no	UN2811
Hazard Class	6.1
Packing Group	III
Proper shipping name	Toxic solid, organic, n.o.s.
Description	UN2811, Toxic solid, organic, n.o.s. (1,10-Phenanthroline), 6.1, III, Marine pollutant
Special Provisions	223, 274
EmS-No	F-A, S-A

IATA

UN/ID no	UN2811
Hazard Class	6.1
Packing Group	III
Proper shipping name	Toxic solid, organic, n.o.s.
Description	UN2811, Toxic solid, organic, n.o.s. (1,10-Phenanthroline), 6.1, III
ERG Code	6L

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
1,10-Phenanthroline	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
This product does not contain any substances regulated by state right-to-know regulations

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