



The Power to Question

# SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 30-Nov-2017

Version 1

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

### Product identifier

Product Name 2,3,4,7,8-Pentachlorodibenzofuran  
Product Code SC-477344

### 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 2
Acute toxicity - Dermal	Category 1
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3

### Label elements

Signal word	Danger
Hazard statements	Fatal if swallowed Fatal in contact with skin Causes skin irritation Causes serious eye irritation May cause cancer May damage fertility or the unborn child May cause respiratory irritation

Symbols/Pictograms





Precautionary Statements - Prevention

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Do not get in eyes, on skin, or on clothing  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

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: Gently wash with plenty of soap and water Immediately call a POISON CENTER or doctor/physician Remove/Take off immediately all contaminated clothing Wash contaminated clothing before reuse  
 If skin irritation occurs: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Rinse mouth  
 Store locked up Store in a well-ventilated place. Keep container tightly closed  
 Dispose of contents/container to an approved waste disposal plant

Precautionary Statements - Storage

Precautionary Statements - Disposal

**Hazards not otherwise classified (HNOC)**

Hazards not otherwise classified (HNOC) Not applicable

**Other Information**

<b>NFPA</b>	Health hazards	-		<b>HMIS</b>	Health hazards	-
	Flammability	-			Flammability	-
	Stability	-			Physical hazards	-
	Physical and chemical properties	-			Personal protection	-

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

CAS No 57117-31-4  
 Molecular Weight 340.42  
 Formula C<sub>12</sub>H<sub>3</sub>Cl<sub>5</sub>O

Chemical Name	CAS No	Weight %	Oral LD50	Dermal LD50	Inhalation LC50
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	>98	= 0.916 mg/kg ( Rat ) = 916 µg/kg ( Rat )	-	-

**4. FIRST AID MEASURES**

**First Aid Measures**

General advice Immediate medical attention is required.



Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.
Skin Contact	Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Immediate medical attention is required. Remove to fresh air. If not breathing, give artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink plenty of water.
Self-protection of the first aider	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

### 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 None.

### 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 Wear self-contained breathing apparatus and protective suit.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

### Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. 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. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

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 Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

### Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Store at -20 °C.

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 Tight sealing safety 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 When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid

Appearance No information available

Odor No information available

### Property

pH No information available

Melting point/freezing point No information available

Boiling point No information available

Flash point No information available

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

### Values



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

Chronic Toxicity	Prolonged or repeated exposure increases the risk. Possible risk of irreversible effects.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
2,3,4,7,8-Pentachlorodibenzofuran 57117-31-4	-	Group 1 Group 3	-	X

IARC (International Agency for Research on Cancer) Group 1 - Carcinogenic to Humans

Not classifiable as a human carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor) X - Present

### 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)	5 mg/kg
ATEmix (dermal)	5 mg/kg

## 12. ECOLOGICAL INFORMATION

Ecotoxicity May cause long lasting harmful effects to aquatic life

0% of the mixture consists of component(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.
Other Information	Waste codes should be assigned by the user based on the application for which the product was used.

### 14. TRANSPORT INFORMATION

#### DOT

UN/ID no	UN2811
Hazard Class	6.1
Packing Group	I
Proper shipping name	Toxic solids, organic, n.o.s.
Description	UN2811, Toxic solids, organic, n.o.s., 6.1, I, POISON
Emergency Response Guide Number	154

#### IMDG

UN/ID no	UN2811
Hazard Class	6.1
Packing Group	I
Proper shipping name	Toxic solid, organic, n.o.s.
Description	UN2811, Toxic solid, organic, n.o.s., 6.1, I
Special Provisions	274
EmS-No	F-A, S-A

#### IATA

UN/ID no	UN2811
Hazard Class	6.1
Packing Group	I
Proper shipping name	Toxic solid, organic, n.o.s.
Description	UN2811, Toxic solid, organic, n.o.s., 6.1, I

### 15. REGULATORY INFORMATION

#### International Inventories

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

No information available

*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	No
Chronic Health Hazard	Yes
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 contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
2,3,4,7,8-Pentachlorodibenzofuran - 57117-31-4	Carcinogen

## **U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
2,3,4,7,8-Pentachlorodibenzofuran 57117-31-4	X	Not Listed	Not Listed

## **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**