



The Power to Question

# SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 01-Aug-2018

Version 1.2

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

### Product identifier

Product Name Diethylamine  
Product Code SC-214887

### 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 4  
Acute toxicity - Dermal Category 3  
Acute toxicity - Inhalation (Dusts/Mists) Category 4  
Skin corrosion/irritation Category 1 Sub-category A  
Serious eye damage/eye irritation Category 1  
Flammable liquids Category 2

### Label elements

Signal word Danger  
Hazard statements Toxic in contact with skin  
Causes severe skin burns and eye damage  
Highly flammable liquid and vapor

### 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  
Wear protective gloves/protective clothing/eye protection/face protection  
Use only outdoors or in a well-ventilated area  
Do not breathe dust/fume/gas/mist/vapors/spray  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge



Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a POISON CENTER or doctor/physician  
 Call a POISON CENTER or doctor/physician if you feel unwell  
 Wash contaminated clothing before reuse  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 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  
 Immediately call a POISON CENTER or doctor/physician  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth  
 Do NOT induce vomiting  
 In case of fire: Use CO2, dry chemical, or foam for extinction  
 Store locked up Store in a well-ventilated place. Keep cool  
 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**

Other hazards Harmful to aquatic life with long lasting effects. Toxic to aquatic life.

<b>NFPA</b>	Health hazards	3		<b>HMIS</b>	Health hazards	3
	Flammability	3			Flammability	3
	Stability	0			Physical hazards	0
	Physical and chemical properties	-			Personal protection	-

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

CAS No 109-89-7  
 Molecular Weight 73.14  
 Formula (C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>NH

Chemical name	CAS No.	Weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Diethylamine	109-89-7	>98	= 248 mg/kg ( Rat )	= 582 mg/kg ( Rabbit )	= 4040 ppm ( Rat ) 4 h = 4000 ppm ( Rat ) 4 h

**4. FIRST AID MEASURES**

**First Aid Measures**

General advice Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).  
 Eye contact Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.  
 Skin Contact Wash off immediately with plenty of water. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.  
 Inhalation Remove to fresh air Call a physician or poison control center immediately If not breathing, give artificial respiration If breathing is difficult, give oxygen



Ingestion	Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately.
Self-protection of the first aider	Remove all sources of ignition.

### 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 Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. 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 The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes. Extremely flammable.

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 Evacuate personnel to safe areas. Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required.

### 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. Do not flush into surface water or sanitary sewer system.

### 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 Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Take up mechanically, placing in appropriate containers for disposal. After cleaning, flush away traces with water. Soak up with inert absorbent material.



## 7. HANDLING AND STORAGE

### Precautions for safe handling

Advice on safe handling

Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Handle in accordance with good industrial hygiene and safety practice. Corrosive hazard. Wear protective gloves/clothing and eye/face protection. Noxious vapor/odor.

### Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Store at room temperature.

Incompatible materials

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

## 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
Diethylamine 109-89-7	STEL: 15 ppm TWA: 5 ppm S*	TWA: 25 ppm TWA: 75 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m <sup>3</sup> (vacated) STEL: 25 ppm (vacated) STEL: 75 mg/m <sup>3</sup>	IDLH: 200 ppm TWA: 10 ppm TWA: 30 mg/m <sup>3</sup> STEL: 25 ppm STEL: 75 mg/m <sup>3</sup>

NIOSH IDLH *Immediately Dangerous to Life or Health*

### Appropriate engineering controls

Engineering Controls

Ensure adequate ventilation, especially in confined areas

### Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles. Face protection shield.

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. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

liquid



Appearance No information available  
 Odor No information available

<b>Property</b>	<b>Values</b>
pH	No information available
Melting point/freezing point	-50 °C
Boiling point	55 °C
Flash point	-23 °C CC (closed cup)
Liquid Density	0.71 g/mL
Evaporation rate	No information available
Upper flammability limits	10.1%
Lower flammability limit	1.8%
Vapor pressure	181.47 mmHg
Vapor density	2.53
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	0.58
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	Heat, flames and sparks. Exposure to air or moisture over prolonged periods.
Incompatible materials	Incompatible with strong acids and bases. Incompatible with oxidizing agents.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating and toxic gases and vapors. 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	Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects.
Target Organ Effects	Central Vascular System (CVS), Eyes, Respiratory system, Skin.

### 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)	500 mg/kg
ATEmix (dermal)	582 mg/kg
ATEmix (inhalation-dust/mist)	1.5 mg/l
ATEmix (inhalation-vapor)	12.1

## 12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects

Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Diethylamine 109-89-7	20: 96 h Pseudokirchneriella subcapitata mg/L EC50	100 - 180: 96 h Poecilia reticulata mg/L LC50 semi-static 25: 96 h Oncorhynchus mykiss mg/L LC50 855: 96 h Pimephales promelas mg/L LC50 flow-through	-	41: 24 h Daphnia magna mg/L EC50 100: 48 h Daphnia magna mg/L EC50

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.

Chemical name	Partition coefficient
Diethylamine 109-89-7	0.58

## 13. DISPOSAL CONSIDERATIONS

Disposal of wastes	This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).
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.
US EPA Waste Number	D001
California Hazardous Waste Status	This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Diethylamine 109-89-7	Toxic Ignitable

## 14. TRANSPORT INFORMATION

### DOT

UN/ID no	UN1154
Hazard Class	3
Subsidiary class	8
Packing Group	II
Proper shipping name	Diethylamine
Reportable Quantity (RQ)	(Diethylamine: RQ (kg)= 45.40)
Description	UN1154, Diethylamine, 3 (8), II
Emergency Response Guide Number	132



**IMDG**

UN/ID no UN1154  
 Hazard Class 3  
 Subsidiary hazard class 8  
 Packing Group II  
 Proper shipping name Diethylamine  
 Description UN1154, Diethylamine, 3 (8), II, (-23°C c.c.)  
 EmS-No F-E, S-C

**IATA**

UN/ID no UN1154  
 Hazard Class 3  
 Subsidiary hazard class 8  
 Packing Group II  
 Proper shipping name Diethylamine  
 Description UN1154, Diethylamine, 3 (8), II  
 ERG Code 3CH

**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
Diethylamine	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 Yes  
 Fire hazard Yes  
 Sudden release of pressure hazard No  
 Reactive hazard No

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Diethylamine 109-89-7	100 lb			X

**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
Diethylamine 109-89-7	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**