



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 05-Apr-2019

Version 1.3

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

Product identifier

Product Name Imidazole
Product Code SC-204776

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
Skin corrosion/irritation
Serious eye damage/eye irritation
Reproductive toxicity

Category 4
Category 1 Sub-category C
Category 1
Category 1B

Label elements

Signal word
Hazard statements

Danger
Harmful if swallowed
Causes severe skin burns and eye damage
May damage fertility or the unborn child

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 breathe dust/fume/gas/mist/vapors/spray



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
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 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
 Store locked up
 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

| | | | | | | |
|-------------|----------------------------------|---|---|-------------|---------------------|---|
| NFPA | Health hazards | 3 |  | HMIS | Health hazards | 3 |
| | Flammability | 1 | | | Flammability | 1 |
| | Stability | 0 | | | Physical hazards | 0 |
| | Physical and chemical properties | - | | | Personal protection | - |

* = Chronic Health Hazard

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 288-32-4
 Molecular Weight 68.08
 Formula C₃H₄N₂

| Chemical name | CAS No. | Weight-% | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|----------|----------|---------------------|-------------|-----------------|
| Imidazole | 288-32-4 | >98 | = 220 mg/kg (Rat) | - | - |

4. FIRST AID MEASURES

First Aid Measures

General advice Immediate medical attention is required.
 Eye contact Keep eye wide open while rinsing. Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area.
 Skin Contact Immediate medical attention is required. 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 Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Immediate medical attention is required. 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 Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

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.

Hazardous combustion products Carbon oxides. Nitrogen oxides (NO_x).

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 Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. 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 Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Avoid creating dust. Dam up. After cleaning, flush away traces with water.

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.



Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

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. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. 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 | 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. 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. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. 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 | Solid |
| Appearance | No information available |
| Odor | No information available |

| <u>Property</u> | <u>Values</u> |
|------------------------------|--------------------------|
| pH | No information available |
| Melting point/freezing point | 89 °C |
| Boiling point | 256 °C |
| Flash point | 145 °C |
| Liquid Density | 1.03 g/cm ³ |
| Evaporation rate | No information available |
| Upper flammability limits | No information available |
| Lower flammability limit | No information available |
| Vapor pressure | 0.002 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 | -0.02 |
| 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 | 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. 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 | 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. |
|------------------|--|

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 |

12. ECOLOGICAL INFORMATION

| | |
|-------------|--|
| Ecotoxicity | May cause long lasting harmful effects to aquatic life |
|-------------|--|

| Chemical name | Algae/aquatic plants | Fish | Toxicity to Microorganisms | Crustacea |
|-----------------------|---|---|----------------------------|-------------------------------------|
| Imidazole 288-32-4 | 82: 96 h Desmodesmus subspicatus mg/L EC50 130: 72 h Desmodesmus subspicatus mg/L EC50 | 280: 48 h Leuciscus idus mg/L LC50 static | - | 341.5: 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 |
|-----------------------|-----------------------|
| Imidazole 288-32-4 | -0.02 |

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. |
| US EPA Waste Number | D002 |

14. TRANSPORT INFORMATION

DOT

| | |
|---------------------------------|--|
| UN/ID no | UN3263 |
| Hazard Class | 8 |
| Packing Group | II |
| Proper shipping name | Corrosive solid, basic, organic, n.o.s. |
| Description | UN3263, Corrosive solid, basic, organic, n.o.s. (Imidazole), 8, II |
| Emergency Response Guide Number | 154 |

IMDG

| | |
|----------------------|--|
| UN/ID no | UN3263 |
| Hazard Class | 8 |
| Packing Group | II |
| Proper shipping name | Corrosive solid, basic, organic, n.o.s. |
| Description | UN3263, Corrosive solid, basic, organic, n.o.s. (Imidazole), 8, II |
| Special Provisions | 274 |
| EmS-No | F-A, S-B |

IATA

| | |
|----------------------|--|
| UN/ID no | UN3263 |
| Hazard Class | 8 |
| Packing Group | II |
| Proper shipping name | Corrosive solid, basic, organic, n.o.s. |
| Description | UN3263, Corrosive solid, basic, organic, n.o.s. (Imidazole), 8, II |
| ERG Code | 8L |

15. REGULATORY INFORMATION

International Inventories

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

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

| Chemical name | TSCA | DSL | NDL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|---------------|------|-----|-----|--------|--------|------|-------|------|-------|------|
| Imidazole | X | X | - | X | - | X | X | X | X | X |

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - 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 | 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