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

Product identifier
Product Name  Propiconazole
Product Code  SC-250786

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 - Inhalation (Dusts/Mists)  Category 1
Skin sensitization  Category 1

Label elements
Signal word  Danger
Hazard statements
Harmful if swallowed
May be harmful in contact with skin
Fatal if inhaled
May cause an allergic skin reaction

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
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
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

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
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 Toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

NFPA

<table>
<thead>
<tr>
<th>Health hazards</th>
<th>Flammability</th>
<th>Stability</th>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

HMIS

<table>
<thead>
<tr>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 60207-90-1
Molecular Weight 342.22
Formula C_{15}H_{17}Cl_{2}N_{3}O_{2}

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propiconazole</td>
<td>60207-90-1</td>
<td>&gt;98</td>
<td>= 1517 mg/kg (Rat)</td>
<td>&gt; 6000 mg/kg (Rabbit) &gt; 4 g/kg (Rat)</td>
<td>&gt; 5800 mg/m^3 (Rat) 4 h = 1264 mg/m^3 (Rat) 4 h</td>
</tr>
</tbody>
</table>

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
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
Wash off immediately with plenty of water. Wash off immediately with soap and plenty of water.

Inhalation
Remove to fresh air Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If not breathing, give artificial respiration.

Ingestion
Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. 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
May cause sensitization of susceptible persons.

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
In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to release of irritating and toxic gases and vapors. Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

Hazardous combustion products

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
Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. 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. Do not flush into surface water or sanitary sewer system. 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. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Avoid creating dust. 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. Corrosive hazard. Wear protective gloves/clothing and eye/face protection.
Thermal decomposition can lead to release of toxic/corrosive gases and vapors. Handle in accordance with good industrial hygiene and safety practice.

**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 cool, well-ventilated place. Store at 4 °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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State**
Solid

**Appearance**
No information available

**Odor**
No information available

**Property**

**Values**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>172.86 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>480.0 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>244.1 °C</td>
</tr>
<tr>
<td>Liquid Density</td>
<td>1.40 g/mL</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper flammability limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.0 mmHg</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
</tbody>
</table>
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.
Incompatible materials
Strong oxidizing agents.
Hazardous Decomposition Products

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
Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

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) 4000 mg/kg
ATEmix (inhalation-dust/mist) 0 mg/l
ATEmix (inhalation-vapor) 1264

12. ECOLOGICAL INFORMATION

Ecotoxicity
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.
Other Information
Waste codes should be assigned by the user based on the application for which the product...
14. TRANSPORT INFORMATION

**DOT**

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>9</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>Environmentally hazardous substance, liquid, n.o.s.</td>
</tr>
<tr>
<td>Description</td>
<td>UN3082, Environmentally hazardous substance, liquid, n.o.s. (Propiconazole), 9, III, Marine pollutant</td>
</tr>
<tr>
<td>Emergency Response Guide Number</td>
<td>171</td>
</tr>
</tbody>
</table>

**IMDG**

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>9</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>Environmentally hazardous substance, liquid, n.o.s.</td>
</tr>
<tr>
<td>Description</td>
<td>UN3082, Environmentally hazardous substance, liquid, n.o.s. (Propiconazole), 9, III, Marine pollutant</td>
</tr>
<tr>
<td>Special Provisions</td>
<td>274, 335, 969</td>
</tr>
<tr>
<td>EmS-No</td>
<td>F-A, S-F</td>
</tr>
</tbody>
</table>

**IATA**

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>9</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>Environmentally hazardous substance, liquid, n.o.s.</td>
</tr>
<tr>
<td>Description</td>
<td>UN3082, Environmentally hazardous substance, liquid, n.o.s. (Propiconazole), 9, III</td>
</tr>
<tr>
<td>ERG Code</td>
<td>9L</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

**International Inventories**

All of the components in the product are on the following Inventory lists:
- Europe (EINECS/ELINCS/NLP)
- Australia (AICS)
- ENCS (Japan)
- Philippines (PICCS)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propiconazole</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

X - Listed

**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**
SC-250786 - Propiconazole

Revision date: 23-Jan-2019

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propiconazole</td>
<td>X</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>60207-90-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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