SAFETY DATA SHEET
Santa Cruz Biotechnology, Inc.
Revision date 21-Jun-2019
Version 1.1

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

Product identifier
Product Name Carfentrazone-ethyl
Product Code SC-227578

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 - Inhalation (Dusts/Mists) Category 3

Label elements
Signal word Danger
Hazard statements May be harmful in contact with skin
Toxic if inhaled

Precautionary Statements - Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
If exposed or concerned: Get medical advice/attention
If INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician
Store in a well-ventilated place. Keep container tightly closed
Store locked up
Dispose of contents/container to an approved waste disposal plant

Precautionary Statements - Response

Precautionary Statements - Storage

Precautionary Statements - Disposal

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.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<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>Carfentrazone-ethyl</td>
<td>128639-02-1</td>
<td>&gt;98</td>
<td>5143 mg/kg (Rat)</td>
<td>&gt;4000 mg/kg (Rat)</td>
<td>5.09 mg/L (Rat)</td>
</tr>
</tbody>
</table>

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**

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**
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**

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
- See Section 12 for additional Ecological Information. Prevent product from entering drains. Should not be released into the environment.

Methods and material for containment and cleaning up
- Prevent further leakage or spillage if safe to do so.
- Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling
- Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

Conditions for safe storage, including any incompatibilities
- Keep containers tightly closed in a dry, cool and well-ventilated place. Store at 4 °C.
- None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carfentrazone-ethyl 128639-02-1</td>
<td>TWA: 1 mg/m³ inhalable particulate matter</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Appropriate engineering controls
- Showers
- Eyewash stations
- Ventilation systems

Individual protection measures, such as personal protective equipment
- Wear safety glasses with side shields (or goggles).
- Wear protective gloves and protective clothing.
- If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be provided in accordance with current local regulations.
- Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid
Appearance: No information available
Odor: No information available
10. STABILITY AND REACTIVITY

Reactivity

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

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)  5143 mg/kg
ATEmix (dermal)  4004 mg/kg
ATEmix (inhalation-dust/mist)  0.5 mg/l

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. Should not be released into the environment.

Contaminated packaging  
Do not reuse container.

14. TRANSPORT INFORMATION

DOT
UN/ID no  UN2810
Hazard Class  6.1
Packing Group  III
Proper shipping name  Toxic liquids, organic, n.o.s.
Description  UN2810, Toxic liquids, organic, n.o.s., 6.1, III
Emergency Response Guide Number  153

IMDG
UN/ID no  UN2810
Hazard Class  6.1
Packing Group  III
Proper shipping name  Toxic liquid, organic, n.o.s.
Description  UN2810, Toxic liquid, organic, n.o.s., (Carfentrazone-ethyl), 6.1, III, Marine pollutant
Special Provisions  223, 274
EmS-No  F-A, S-A

IATA
UN/ID no  UN2810
Hazard Class  6.1
Packing Group  III
Proper shipping name  Toxic liquid, organic, n.o.s.
Description  UN2810, Toxic liquid, organic, n.o.s., 6.1, III
ERG Code  6L

15. REGULATORY INFORMATION

International Inventories
All of the components in the product are on the following Inventory lists
China (IECSC)

<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>Carfentrazone-ethyl</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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