SAFETY DATA SHEET
Santa Cruz Biotechnology, Inc.
Revision date 06-Jan-2015
Version 1.1

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

Product identifier
Product Name Harpagoside
Product Code SC-203073

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
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

Label elements
Signal word Warning
Hazard statements HARMFUL IF SWALLOWED
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

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

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

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
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</thead>
<tbody>
<tr>
<td>Health hazards -</td>
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<tr>
<td>Flammability -</td>
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<tr>
<td>Stability -</td>
<td>Physical hazards -</td>
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<tr>
<td>Physical and chemical properties -</td>
<td>Personal protection -</td>
</tr>
</tbody>
</table>
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>
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<tbody>
<tr>
<td>Harpagoside</td>
<td>19210-12-9</td>
<td>&gt;98</td>
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</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.
- None.

Specific hazards arising from the chemical
- No information available.
- Hazardous combustion products: Carbon oxides.

Explosion data
- No information available.
- 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.
Personal precautions, protective equipment and emergency procedures
Personal precautions
Ensure adequate ventilation, especially in confined areas.

Environmental precautions
Environmental precautions
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.
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.

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7. HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities
Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.
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
Wear safety glasses with side shields (or 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
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State
Solid
Appearance
No information available
Odor
characteristic
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.

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)  500 mg/kg

12. ECOLOGICAL INFORMATION
Ecotoxicity
May cause long lasting harmful effects to aquatic life

100% 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.

14. TRANSPORT INFORMATION

DOT
Not regulated

IMDG
Not regulated

IATA
Not regulated

15. REGULATORY INFORMATION

International Inventories
All of the components in the product are on the following Inventory lists
Europe (EINECS/ELINCS/NLP)

<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>
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<tr>
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<td>X</td>
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</table>

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: 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