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

Product identifier
- **Product Name**: Heliotrine
- **Product Code**: SC-491583

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 1
- **Acute toxicity - Dermal**: Category 1
- **Acute toxicity - Inhalation (Dusts/Mists)**: Category 2

Label elements
- **Signal word**: Danger

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 get in eyes, on skin, or on clothing
- Wear protective gloves/protective clothing/eye protection/face protection
- Do not breathe dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Wear respiratory protection

Precautionary Statements - Response
- IF exposed or concerned: Get medical advice/attention
- IF ON SKIN: Gently wash with plenty of soap and water
- Immediately call a POISON CENTER or doctor/physician
- Remove/Take off immediately all contaminated clothing
- 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: Immediately call a POISON CENTER or doctor/physician
- Rinse mouth
Precautionary Statements - Storage
Store locked up Store in a well-ventilated place. Keep container tightly closed
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
NFPA Health hazards 3 0 0 HMIS Health hazards 3 Flammability 0 Physical hazards 0 Stability 0 Personal protection -

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>Heliotrine</td>
<td>303-33-3</td>
<td>&gt;98</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First Aid Measures
Consult a physician if necessary. Remove to fresh air.
Wash with plenty of water.
Wash skin with soap and water.
Remove to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration
Never give anything by mouth to an unconscious person. Clean mouth with water.

Most important symptoms and effects, both acute and delayed
No information available.

Indication of any immediate medical attention and special treatment needed
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
No information available.

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

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.

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### 6. ACCIDENTAL RELEASE MEASURES

**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.

Methods for cleaning up
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 4 °C.

Incompatible materials
None known based on information supplied.

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### 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.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES
Physical State  Solid
Appearance  No information available
Odor  No information available

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
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</thead>
<tbody>
<tr>
<td>pH</td>
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<tr>
<td>Melting point/freezing point</td>
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<td>Boiling point</td>
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<tr>
<td>Flash point</td>
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<tr>
<td>Liquid Density</td>
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<tr>
<td>Evaporation rate</td>
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<tr>
<td>Upper flammability limits</td>
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<tr>
<td>Lower flammability limit</td>
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<tr>
<td>Vapor pressure</td>
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<tr>
<td>Vapor density</td>
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</tr>
<tr>
<td>Specific gravity</td>
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</tr>
<tr>
<td>Water solubility</td>
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<tr>
<td>Solubility in other solvents</td>
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</tr>
<tr>
<td>Partition coefficient</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Kinematic viscosity</td>
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<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  Extremes of temperature and direct sunlight.
Incompatible materials  Strong oxidizing agents.
Hazardous Decomposition Products  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  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)  0 mg/kg
ATEmix (dermal)  5 mg/kg
ATEmix (inhalation-dust/mist)  0 mg/l
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
- UN/ID no: UN1544
- Hazard Class: 6.1
- Packing Group: II
- Proper shipping name: Alkaloids, solid, n.o.s.
- Description: UN1544, Alkaloids, solid, n.o.s., 6.1, II
- Emergency Response Guide Number: 151

IMDG
- UN/ID no: UN1544
- Hazard Class: 6.1
- Packing Group: II
- Proper shipping name: Alkaloids, solid, n.o.s.
- Description: UN1544, Alkaloids, solid, n.o.s., 6.1, II
- Special Provisions: 43, 274
- EmS-No: F-A, S-A

IATA
- UN/ID no: UN1544
- Hazard Class: 6.1
- Packing Group: II
- Proper shipping name: Alkaloids, solid, n.o.s.
- Description: UN1544, Alkaloids, solid, n.o.s., 6.1, II
- ERG Code: 6L

15. REGULATORY INFORMATION

International Inventories
All of the components in the product are on the following Inventory lists
No information available

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
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