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

Product identifier
Product Name: Rhamnetin
Product Code: SC-236668

Recommended use of the chemical and restrictions on use
For research use only. Not intended for diagnostic or therapeutic use.

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 2A
Carcinogenicity: Category 2
Specific target organ toxicity (single exposure): Category 3

Label elements
Signal word: Warning
Hazard statements:
- Causes skin irritation
- Causes serious eye irritation
- Suspected of causing cancer
- May cause respiratory irritation. May cause drowsiness or dizziness

Symbols/Pictograms
- Exclamation mark
- Exclamation mark with exclamation mark

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
- Wear eye/face protection
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area

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)
703.527.3887 (Outside USA)
Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

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
Unknown acute toxicity
100% of the mixture consists of ingredient(s) of unknown toxicity.

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>2</td>
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<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
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<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>X</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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</thead>
<tbody>
<tr>
<td>Rhamnetin</td>
<td>90-19-7</td>
<td>&gt;98</td>
<td>-</td>
<td>-</td>
<td>-</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

None.

Specific hazards arising from the chemical

No information available.

Hazardous combustion products

Carbon oxides.

Explosion data

No information available.

Protection 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

Ensure adequate ventilation, especially in confined areas.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

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.

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Protect from moisture. Store at 4 °C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>powder</td>
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<tr>
<td>Odor</td>
<td>No information available</td>
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</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable under recommended storage conditions.</td>
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<tr>
<td>Possibility of Hazardous Reactions</td>
<td>None under normal processing.</td>
</tr>
<tr>
<td>Hazardous polymerization</td>
<td>No information available.</td>
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<tr>
<td>Conditions to avoid</td>
<td>Exposure to air or moisture over prolonged periods.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Strong oxidizing agents.</td>
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<tr>
<td>Hazardous Decomposition Products</td>
<td>Carbon oxides.</td>
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11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Values</th>
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</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No data available.</td>
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<tr>
<td>Eye contact</td>
<td>No data available.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>No data available.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

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.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
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<tbody>
<tr>
<td>Rhamnetin</td>
<td>-</td>
<td>Group 2B</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

IARC (International Agency for Research on Cancer) Group 2B - Possibly Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor) X - Present

Numerical measures of toxicity - Product Information

Unknown acute toxicity

100% of the mixture consists of ingredient(s) of unknown toxicity

12. ECOLOGICAL INFORMATION

Ecotoxicity

May cause long lasting harmful effects to aquatic life

100% 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.

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>
<td>Rhamnetin</td>
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<td>-</td>
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</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
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

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