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

<table>
<thead>
<tr>
<th>Product identifier</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Name</strong></td>
<td>Tetramethrin</td>
</tr>
<tr>
<td><strong>Product Code</strong></td>
<td>SC-251196</td>
</tr>
</tbody>
</table>

**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
- Carcinogenicity: Category 1B

**Label elements**
- **Signal word**: Danger
- **Hazard statements**:
  - May be harmful if swallowed
  - Toxic if inhaled
  - May cause cancer

**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
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area

**Precautionary Statements - Response**
- 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

**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 hazards

Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

NFPA
Health hazards 0
Flammability 1
Stability 0
Physical and chemical properties -

HMIS
Health hazards 0
Flammability 1
Physical hazards 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>Tetramethrin</td>
<td>7696-12-0</td>
<td>&gt;98</td>
<td>4640 mg/kg (Rat)</td>
<td>&gt; 2000 mg/kg (Rat) &gt; 2500 mg/kg (Rat)</td>
<td>&gt; 1.18 mg/L (Rat) 3 h</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First Aid Measures

General advice
If symptoms persist, call a physician.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. 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.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Wash contaminated clothing before reuse. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation
Remove to fresh air If symptoms persist, call a physician. Artificial respiration and/or oxygen may be necessary. Call a physician. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors.

Ingestion
Immediate medical attention is not required. Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider
Use personal protective equipment as required.

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

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
No information available.
chemical
Hazardous combustion products Carbon oxides.

**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** Use personal protective equipment as required. Avoid contact with eyes and skin. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental precautions**
Environmental precautions
Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information. Should not be released into the environment.

**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. 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. Dam up. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Use with local exhaust ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep container tightly closed. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Store at room temperature.

**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. Face protection shield.
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. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended.

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>No information available</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>68 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>455 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>227.9 °C</td>
</tr>
<tr>
<td>Liquid Density</td>
<td>1.11 g/cm³</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>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.13</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>4.73</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           | 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 Avoid repeated exposure.
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>
</tr>
</thead>
<tbody>
<tr>
<td>Tetramethrin</td>
<td>-</td>
<td>Group 2A</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

IARC (International Agency for Research on Cancer) Group 2A - Probably 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 No information available
The following values are calculated based on chapter 3.1 of the GHS document

| ATEmix (oral) | 4640 mg/kg |
| ATEmix (dermal) | 2000 |
| ATEmix (inhalation-dust/mist) | 0.9 mg/l |
| ATEmix (inhalation-vapor) | 1.2 |

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects

0% 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. Should not be released into the environment.
Contaminated packaging Do not reuse container.
Other Information Waste codes should be assigned by the user based on the application for which the product was used.
California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetramethrin</td>
<td>Toxic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>7696-12-0</td>
<td></td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION
SC-251196 - Tetramethrin

DOT
UN/ID no
Hazard Class 9
Packing Group III
Proper shipping name Environmentally hazardous substance, solid, n.o.s.
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Tetramethrin), 9, III, Marine pollutant
Marine pollutant This product contains a chemical which is listed as a marine pollutant according to DOT
Emergency Response Guide Number 171

IMDG
UN/ID no UN3077
Hazard Class 9
Packing Group III
Proper shipping name Environmentally hazardous substance, solid, n.o.s.
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Tetramethrin), 9, III, Marine pollutant
Special Provisions 274, 335, 966, 967, 969
EmS-No F-A, S-F
Marine pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

IATA
UN/ID no UN3077
Hazard Class 9
Packing Group III
Proper shipping name Environmentally hazardous substance, solid, n.o.s.
Description UN3077, Environmentally hazardous substance, solid, n.o.s., 9, III
ERG Code 9L

15. REGULATORY INFORMATION

International Inventories
All of the components in the product are on the following Inventory lists
Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): China (IECSC) 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>Tetramethrin</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</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 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>Tetramethrin</td>
<td>X</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>7696-12-0</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