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

**Product identifier**

- **Product Name**: Lapachol
- **Product Code**: SC-252947

**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**

- **Acute toxicity - Oral**: Category 4
- **Acute toxicity - Dermal**: Category 4
- **Acute toxicity - Inhalation (Dusts/Mists)**: Category 4
- **Skin corrosion/irritation**: Category 2
- **Serious eye damage/eye irritation**: Category 2A
- **Specific target organ toxicity (single exposure)**: Category 3

**Label elements**

- **Signal word**: Warning
- **Hazard statements**:
  - Harmful if swallowed
  - Harmful in contact with skin
  - Harmful if inhaled
  - Causes skin irritation
  - Causes serious eye irritation
  - May cause respiratory irritation

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

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Santa Cruz Biotechnology, Inc.  www.scbt.com
Precautionary Statements - Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/physician if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
If eye irritation persists: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.

Precautionary Statements - Storage
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)
Not applicable

Other Information

NFPA Health hazards 2
Flammability 0
Stability 0
Physical and chemical properties -

HMIS Health hazards 2
Flammability 0
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>Lapachol</td>
<td>84-79-7</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**

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**

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**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature.

**Incompatible materials**

None known based on information supplied.

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
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>crystalline powder oil</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>141 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
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</tr>
<tr>
<td>Density</td>
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</tr>
<tr>
<td>Evaporation rate</td>
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</tr>
<tr>
<td>Upper flammability limits</td>
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<tr>
<td>Lower flammability limit</td>
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</tr>
<tr>
<td>Vapor pressure</td>
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</tr>
<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>
<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>
<td>Decomposition temperature</td>
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</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  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
- **ATEmix (dermal)**  1100 mg/kg
- **ATEmix (inhalation-dust/mist)**  1.5 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  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>
</tr>
</thead>
<tbody>
<tr>
<td>Lapachol</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</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
IECS - 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