Material Safety Data Sheet
(+)-Catechin, Hydrate MSDS

Section 1: Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name: (+)-Catechin, Hydrate</th>
<th>Contact Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Catalog Codes:</strong> SLC2851</td>
<td>Sciencelab.com, Inc.</td>
</tr>
<tr>
<td><strong>CAS#: 225937-10-0</strong></td>
<td>14025 Smith Rd.</td>
</tr>
<tr>
<td><strong>RTECS: DJ3450000</strong></td>
<td>Houston, Texas 77396</td>
</tr>
<tr>
<td><strong>TSCA: TSCA 8(b) inventory: No products were found.</strong></td>
<td>US Sales: 1-800-901-7247</td>
</tr>
<tr>
<td><strong>CI#: Not available.</strong></td>
<td>International Sales: 1-281-441-4400</td>
</tr>
<tr>
<td><strong>Synonym:</strong> [(+)-Cyandiol-3; Catechol (Flavan)] Hydrate; 3,3'4'5,7-Pentahydroxyflavane</td>
<td>Order Online: ScienceLab.com</td>
</tr>
<tr>
<td><strong>Chemical Name:</strong> (+)-Catechin, Hydrate</td>
<td>CHEMTREC (24HR Emergency Telephone), call:</td>
</tr>
<tr>
<td><strong>Chemical Formula:</strong> C15H14O6.xH2O</td>
<td>1-800-424-9300</td>
</tr>
<tr>
<td></td>
<td>International CHEMTREC, call: 1-703-527-3887</td>
</tr>
<tr>
<td></td>
<td>For non-emergency assistance, call: 1-281-441-4400</td>
</tr>
</tbody>
</table>

Section 2: Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+)-Catechin</td>
<td>154-23-4</td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients: (+)-Catechin: ORAL (LD50): Acute: &gt;10000 mg/kg [Rat (RTECS)]. &gt;10000 mg/kg [Mouse]. 3890 mg/kg [Rat (other source)].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures
Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact:
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

| Flammability of the Product: May be combustible at high temperature. |
| Auto-Ignition Temperature: Not available. |
| Flash Points: CLOSED CUP: Higher than 93.3°C (200°F). |
| Flammable Limits: Not available. |
| Products of Combustion: These products are carbon oxides (CO, CO2). |
| Fire Fighting Media and Instructions: SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures |
| Special Remarks on Explosion Hazards: Not available. |

Section 6: Accidental Release Measures

| Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority |
requirements.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:
Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Solid needles.)

Odor: Not available.

Taste: Not available.

Molecular Weight: 290.28 g/mole + xH2O

Color: Green.

pH (1% soln/water): Not available.

Boiling Point: Not available.

Melting Point: 308.5°C (587.3°F)

Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.
Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Not available.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, incompatible materials

Incompatibility with various substances: Not available.

Corrosivity: Not available.

Special Remarks on Reactivity: Incompatibilities with other materials is unknown

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 3890 mg/kg [Rat (other source)].

Chronic Effects on Humans: MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.

Other Toxic Effects on Humans:
Hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:
May affect genetic material. May cause adverse reproductive effects (fetotoxicity/possible teratogen) based on animal data.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects:
Skin: May cause skin irritation. May be absorbed through skin.
Eyes: May cause eye irritation.
Inhalation: May cause respiratory tract irritation.
Ingestion: May cause gastrointestinal (digestive) tract irritation. May affect metabolism.

Section 12: Ecological Information
Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

---

Section 13: Disposal Considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

---

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

---

Section 15: Other Regulatory Information

Federal and State Regulations: Pennsylvania RTK: (+)-Catechin
TSCA 8(b) inventory: No products were found.

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):
R36/38- Irritating to eyes and skin.
R40- Possible risks of irreversible effects.
S22- Do not breathe dust.
S36/37- Wear suitable protective clothing and gloves.
S38- In case of insufficient ventilation, wear suitable respiratory equipment.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E
National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Dust respirator. Be sure to use an approved/certified respirator or equivalent.
Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 04:35 PM

Last Updated: 10/09/2005 04:35 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.