Section 1. Product and Company Identification

Product Name: Caffeic acid
Product ID: C0121
Chemical Name (Synonyms): 3,4-Dihydroxycinnamic acid

Supplier:
LKT Laboratories, Inc
545 Phalen Blvd.
St. Paul, MN 55130 USA
Ph: 651-644-8424 Fax: 651-644-8357
www.lktlabs.com - getinfo@lktlabs.com

Emergency Phone #: 1-800-424-9300

Section 2. Hazards Identification

GHS Classification
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Carcinogenicity (Category 2), H351
Reproductive toxicity (Category 2), H361
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

GHS Label elements including precautionary statements

Pictogram

Signal word: Warning

Hazard and precautionary statements

H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H351 - Suspected of causing cancer.
H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust, fumes, gas, mist, vapors, and spray.
P264 - Wash skin thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, eye protection and face protection.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 - IF exposed or confused: Get medical advice/attention.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P337 + P313 - If eye irritation persists: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

HMIS Classification
Health hazard: 2
Chronic health hazard: *
Flammability: 0
Physical hazard: 0

NFPA Rating
Health hazard: 2
Fire hazard: 0
Reactivity hazard: 0

Potential Health Effects
Inhalation - May be harmful if inhaled. May cause respiratory irritation.
Skin - May be harmful if absorbed through skin. Causes skin irritation.
Eyes - Causes serious eye irritation. Ingestion - May be harmful if swallowed.
Carcinogenicity: Suspected of causing cancer. Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>Formula</th>
<th>Formula Wt.</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_9H_8O_4</td>
<td>180.16</td>
<td>331-39-5</td>
<td>206-361-2</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**Eye Contact**
Rinse eyes thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Skin Contact**
Wash off with soap and plenty of water. Consult a physician.

**Inhalation**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**Ingestion**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5. Firefighting Measures

**Flash Point**
Not available.

**Extinguishing Media**
Use water spray, alcohol-resistant foam, dry chemical powder, and carbon dioxide.

**Firefighting Procedures**
Wear self-contained breathing apparatus for fire fighting and protective clothing if necessary.

**Unusual Fire Hazards**
Carbon oxides.

Section 6. Accidental Release Measures

**Personal Precautions**
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, dust, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental Precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleanup**
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

**Handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

**Storage Conditions**
Keep container tightly closed in a dry and well-ventilated place.

**Hazardous Decomposition Products**
Not available.

**Other Remarks**
None.
Section 8. Exposure Controls/Personal Protection

Personal protective equipment
EXPOSURE CONTROLS
Contains no substances with occupational exposure limit values.
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

PERSONAL PROTECTIVE EQUIPMENT
Eye/face protection: Safety glasses with side-shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full and splash contact - Material: nitrile rubber. Minimum layer thickness: 0.11 mm, Break through time: 480 min, Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M).

Body protection: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>Brownish/yellowish crystalline powder.</td>
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</table>

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Volatility</th>
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<tbody>
<tr>
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<td>Not available.</td>
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</table>

<table>
<thead>
<tr>
<th>Melting Point</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>212°C-214°C (dec.)</td>
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</table>

<table>
<thead>
<tr>
<th>Solubility</th>
<th>pH</th>
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</thead>
<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>Ignition temperature</th>
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</thead>
<tbody>
<tr>
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<td>Not available.</td>
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</table>

<table>
<thead>
<tr>
<th>Lower explosion limit</th>
<th>Autoignition temperature</th>
</tr>
</thead>
<tbody>
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<td>Not available.</td>
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</table>

<table>
<thead>
<tr>
<th>Upper explosion limit</th>
<th>Vapor pressure</th>
</tr>
</thead>
<tbody>
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<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water solubility</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sparingly soluble in water.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partition coefficient: n-octanol/water</th>
<th>Odor Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>log P: 1.15</td>
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</table>

<table>
<thead>
<tr>
<th>Relative vapor density</th>
<th>Evaporation rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Section 10. Stability and Reactivity

Stability
Stable.

Materials To Avoid
Strong bases and strong oxidizing agents.

Hazardous Decomposition Products
Not available.
Section 11. Toxicological Information

Oral LD50  Not available.

Inhalation LC50  Not available.

Dermal LD50  Not available.

Skin corrosion/irritation  Not available.

Serious eye damage/irritation  Not available.

Respiratory or skin sensitization  Not available.

Other information on acute toxicity  Not available.

Germ cell mutagenicity  Mouse Lymphocyte Mutation in mammalian somatic cells.

Reproductive Toxicity  Possible risk of congenital malformation in the fetus. Suspected human reproductive toxicant.

Specific organ toxicity single exposure (GHS)  Inhalation - May cause respiratory irritation.

Specific organ toxicity repeated exposure (GHS)  Not available.

Aspiration Hazard  Not available.

Synergistic effects  Not available.

Teratogenicity  Not available.

Additional Information  RTECS: GD8950000 To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Signs and symptoms of exposure  Stomach - irregularities - Based on Human Evidence.

Potential Health Effects  Inhalation - May be harmful if inhaled. May cause respiratory irritation. Skin - May be harmful if absorbed through skin. Causes skin irritation. Eyes - Causes serious eye irritation. Ingestion - May be harmful if swallowed. Carcinogenicity: Suspected of causing cancer. Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Carcinogenicity  Rat - oral Tumorigenic: Carcinogenic by RTECS criteria. Gastrointestinal: Tumors, kidney and ureter. Bladder: Kidney tumors. This product is or contains a components that has been reported to be possibly carcinogenic based on its IARC. ACGIH, NTP or EPA classification. Limited evidence of carcinogenicity in animal studies. IARC: 2B- Group 2B: Possible carcinogenic to humans (3,4-Dihydroxycinnamic acid). ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Section 12. Ecological Information

Toxicity  Not available.

Mobility in soil  Not available.

PBT and vPvB assessment  PBT/vPvB assessment not available as chemical safety assessment not required/ not
Section 13. Disposal Considerations

**Waste Disposal**
Dispose of material according to all federal, state, and local regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of as unused product.

Section 14. Transport Information

**DOT (US)** Not dangerous goods.

**IATA** Not dangerous goods.

**IMDG** Not dangerous goods.

Further Information

Section 15. Regulatory Information

**Reach No.**

**SARA 302 Components** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

**SARA 313 Components** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Components** Acute health hazard, chronic health hazard.

**Massachusetts Right To Know Components** No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components** Caffeic acid CAS No. 331-9-5 Revision Date: 2009-07-17

**New Jersey Right To Know Components** Caffeic acid CAS No. 331-9-5 Revision Date: 2009-07-17

**California Prop 65 Components** WARNING! This product contains a chemical known to the State of California to cause cancer. Caffeic acid CAS No. 331-9-5 Revision Date: 2007-09-28

Section 16. Other Information

**Other information** The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.