MATERIAL SAFETY DATA SHEET

Product Name: Lauric-Myristic Acid C12-C14 FA  Version: 1.01  Date: May 25, 2009

1. CHEMICAL PRODUCT IDENTIFICATION
1.1 Product Name Lauric-Myristic Acid (C12-C14 FA)
1.2 Common Chemical Name Lauric-Myristic Acid
1.3 Product Code (Supplier) Lauric-Myristic Acid (C12-C14 FA)

2. COMPOSITION / INFORMATION ON INGREDIENTS
2.1 Chemical Characterization (Substance)
2.2 Compound, % by Weight
2.3 CAS Number
2.4 EINECS Number
2.5 Formula

Blend of Following Acids  CAS Number  EINECS Number  % by Weight
1. Decanoic Acid  334-48-5  206-376-4  2.0 Max
2. Dodecanoic Acid  143-07-7  205-582-1  72 Min
3. Tetradecanoic Acid  544-63-8  208-875-2  20-28
4. Hexadecanoic Acid  57-10-3  200-312-9  4.0 Max

3. HAZARD IDENTIFICATION
3.1 European Hazard Classification Xi - irritant, R36 - Dodecanoic Acid causes irritation to eyes; not applicable for other components
3.2 Environmental Hazards None identified
3.3 Human Health Hazards, Effects, and Symptoms:
   a. Ingestion  Causes irritation to the mucous membrane
   b. Inhalation  No harmful effect expected at ambient temperature. Vapours cause irritation
   c. Skin Contact  Slight irritant
   d. Eye Contact  Mild irritant

4. FIRST AID MEASURES
4.1 Inhalation  Take affected person into open air
4.2 Skin Contact  Remove contaminated clothing, and wash thoroughly with soap and water
4.3 Swallowing  Do not provide any type of ingestion; seek medical help immediately
4.4 Eye Contact  Immediately flush eyes with a direct stream of water for at least 15 minutes and seek medical help

5. FIRE FIGHTING MEASURES
5.1 Extinguishing Media  Carbon dioxide, dry chemical or foam
   a. Suitable  Carbon dioxide, foam
### 5. FIRE FIGHTING MEASURES

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<tr>
<td>b.</td>
<td>Not Suitable</td>
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<td>c.</td>
<td>Special Fire Fighting Procedures</td>
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#### 5.2 Unusual Fire or Explosion Hazards

None

#### 5.3 Hazardous Thermal Decomposition

Upon decomposition, the product releases carbon dioxide, carbon monoxide, hydrocarbons, soot, aldehydes and ketones

#### 5.4 Protection for Fire Fighters

Wear self-contained breathing apparatus and protective clothing to avoid direct contact with eyes and skin

### 6. ACCIDENTAL RELEASE MEASURES

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<tr>
<td>6.1 Personal Precautions</td>
<td>Wear personal protection gear. Observe all standard industry measures</td>
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<tr>
<td>6.2 Environmental Precautions</td>
<td>In case of spillage, cover the spilt amount with sand or soil to absorb the product. Then, collect the sand or soil with the product absorbed into a suitable container and dispose. Sweep or shovel solid matter. Prevent entry of product into drains and ground water</td>
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<tr>
<td>6.3 Clean Up Method</td>
<td>Cover the product with dry earth or sand so that it may be absorbed. Sweep or shovel solid matter. Then, transfer into a container for disposal. Wash affected area with water and detergent</td>
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### 7. HANDLING AND STORAGE

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<tr>
<td>7.1 Handling</td>
<td>Follow good hygiene and safety procedures. Avoid any direct eye and/or skin contact with the product. Wash hands with soap after handling</td>
</tr>
<tr>
<td>7.2 Storage</td>
<td>Store in sealed containers, in a cool and dry place, away from heat, strong acids and oxidising agents</td>
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<tr>
<td>7.3 Suitable Packing Materials</td>
<td>HDPE bags, stainless steel tanks</td>
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<tr>
<td>7.4 Unsuitable Packing Material</td>
<td>Unlined MS drums</td>
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### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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<tr>
<td>8.1 Ventilation / Engineering Controls</td>
<td>Use adequate ventilation to keep airborne concentration low. Avoid inhalation of vapours</td>
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<tr>
<td>8.2 Respiratory System Protection</td>
<td>None required when adequate ventilation is available at ambient temperature. In the presence of mist/vapours, use self-contained NIOSH/MSHA approved respirator</td>
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<tr>
<td>8.3 Skin and Body Protection</td>
<td>Wear a uniform, apron and rubber boots</td>
</tr>
<tr>
<td>8.4 Eye Protection</td>
<td>Wear safety goggles or a face mask</td>
</tr>
<tr>
<td>8.5 Other Protective Equipment</td>
<td>Eye wash, safety shower, protective clothing</td>
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### 9. PHYSICAL AND CHEMICAL PROPERTIES

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<tr>
<td>9.1 Average Molecular Weight</td>
<td>Approximately 208</td>
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9.2 Specific Gravity | Not available
9.3 Gas Density | Not available
9.4 Liquid Density | 0.875 at 40°C
9.5 Vapour Pressure | At 72°F (22°C) 1mm Hg
9.6 Solubility in Water | Insoluble in water
9.7 Percent Volatiles by Volume | Not available
9.8 Evaporation Rate | Not available
9.9 pH | Not available
9.10 Sublimation Point | Not available
9.11 Appearance, Odour and State | Clear liquid at 40°C with a characteristic fatty odour

10. STABILITY AND REACTIVITY
10.1 Chemical Stability | Stable under normal operational conditions
10.2 Conditions to Avoid | Sources of heat, ignition and flame
10.3 Materials to Avoid | Strong acids and oxidising agents
10.4 Hazardous Polymerisation Products | None
10.5 Hazardous Decomposition Products | Carbon monoxide and carbon dioxide

11. TOXICOLOGICAL INFORMATION
11.1 Acute Toxicity | Non toxic
   a. Oral (LD50) (Rat) | 10 mg /kg
   b. Dermal (LD50) (Rabbit) | Not available
   c. Inhalation (LC50) | Not available
   d. Skin Irritation | Causes mild irritation
   e. Eye Irritation | Corneal opacity and mild conjunctivitis is observed due to irritation
   f. Carcinogenicity | Not reported

12. ECOLOGICAL INFORMATION
12.1 Comment | This product is very easily biodegradable (90%) and does not cause difficulties in waste water treatment plants. Being insoluble in and lighter than water, large amounts of contamination can be separated using standard oils and fats separators
12.2 Eco-Toxicity | Data not available

13. DISPOSAL CONSIDERATIONS
13.1 Methods of Disposal | Reprocess or dispose of in accordance with local, state and federal regulations, in an approved area

14. TRANSPORT INFORMATION
14.1 UN Number | Not regulated for transport
14.2 Land Road / Railway | Chemicals N. O. S. (non regulated)
14.21 ADR/RID Class | Chemicals N. O. S. (non regulated)
14.22 ADR/RID Item Number | Chemicals N. O. S. (non regulated)
14.3 Inland Waterways | Chemicals N. O. S. (non regulated)
14.31 ADNR Class | Chemicals N. O. S. (non regulated)
14.4 Sea
14.41 IMDG Class | Chemicals N. O. S. (non regulated)
14.42 IMDG Page Number
14.5 Air
14.51 IATA-DGR Class | Chemicals N. O. S. (non regulated)
14.6 National Transport Regulations | Chemicals N. O. S. (non regulated)

### 15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>15.1 EEC Regulations</th>
<th>This product has been classified in accordance with the hazard criteria of controlled product regulation</th>
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</thead>
<tbody>
<tr>
<td>15.2 Inventory Status</td>
<td>TSCA, AICS, DSL, IECSE, EINECS, ENCS, KECI, PICCS</td>
</tr>
<tr>
<td>15.2 Others</td>
<td>According to available data, the product is not regulated. However, one should observe prescribed federal, state and local measures while dealing with chemicals</td>
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### 16. OTHER INFORMATION

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<thead>
<tr>
<th>16.1 REACH Pre-Registration Number</th>
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<tr>
<td>16.2 Legend</td>
<td>Not applicable; not available</td>
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#### 16.3 History:

<table>
<thead>
<tr>
<th>a. Date of First Issue</th>
<th>July 20, 2004</th>
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<tbody>
<tr>
<td>b. Date of Last Issue</td>
<td>July 20, 2004</td>
</tr>
<tr>
<td>c. Date of Current Issue</td>
<td>May 25, 2009</td>
</tr>
</tbody>
</table>

MSDS Prepared By | Mr. C.R. Marathe |
MSDS Authorised By | Dr. Kashinath Pandit |

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