The information provided conforms to ANSI Standard Z400.1

**Ener G**™
CALCIUM SALTS OF FATTY ACIDS

**MATERIAL SAFETY DATA SHEET**
Calcium salts of long chain fatty acid

**BIOPRODUCTS**

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**SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Bioproducts, Inc.
320 Springside Drive, Suite 300
Fairlawn, OH 44333
Phone (330) 665-1999

**PRODUCT:** Ener G®

**Chemical Name:** Calcium salts of long chain fatty acid mixture

**Chemical Family:** Calcium salts of long chain fatty acids

**Chemical Formula:** Complex hydrocarbon

**Formula Wt:** Not available

**Effective Date:** 5/1/94
**Revision:** New
**Last Revision Date:** New
**Emergency Phone:** 1-800-225-4519

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**SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No.</th>
<th>AAFCO No.</th>
<th>Wt%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium salts of long chain fatty acid mixture</td>
<td>mixture</td>
<td>T33.14</td>
<td>95%</td>
</tr>
</tbody>
</table>

**Exposure Guidelines**

**OSHA Standards:** None established for this product; Nuisance dust limits established - 8 hr. Time-Weighted Average (TWA): 15 mg/m³ (total dust); 5 mg/m³ (respirable dust)

**NIOSH Recommendations:** None established.

**ACGIH Threshold Limit Values:** None established for this product; Nuisance dust limits established - 8 hr. Time Weighted Average (TWA): 10 mg/m³ (total - Particulates Not Otherwise Classified)

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**SECTION 3. HAZARDS IDENTIFICATION**

**Emergency Overview**

This product is considered to be non-toxic; however it may be slightly irritating to the eyes, causing temporary redness and tearing. This product may be difficult to extinguish if involved in a fire.

**NFPA Ratings:**

<table>
<thead>
<tr>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Key:** 0 - Minimal, 1 - Slight, 2 - Moderate, 3 - Serious, 4 - Severe

**Potential Health Effects**

**Target Organs:** Respiratory system, eyes, skin, gastrointestinal tract

**Routes of Exposure:** Inhalation, dermal and eye contact, ingestion.

**Toxic Hazard Rating:**

<table>
<thead>
<tr>
<th>Acute Local</th>
<th>Acute Systemic</th>
<th>Chronic Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritant 1</td>
<td>None</td>
<td>Allergen 1</td>
</tr>
</tbody>
</table>

**Key:** 1 - Slight

**Eyes:** May be irritating to eyes, causing readily reversible changes such as redness and tearing which disappear after end of exposure.
Skin: No symptoms known as product is considered to be non-toxic.
Ingestion: Even though the product is not intended for human consumption, it is considered to be non-toxic.
Inhalation: No symptoms known as product is considered to be non-toxic if inhaled. Although inhalation of dust from this product may not be considered toxic, it is certainly a hazard if there is inhalation of too many particles. Individuals should be removed from exposure to too high a concentration of even relatively non-toxic substances.
Chronic Effects: None known.

SECTION 4. FIRST AID MEASURES

Ensure physician has access to this MSDS.

Eyes: Remove contacts if applicable. Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids while rotating eyes during wash. Ensure no particles remain in creases of eyelids. If so, continue to wash. Get medical attention if irritation persists.

Skin: Wash area of skin contact thoroughly with soap and water. Remove and wash contaminated clothing. If irritation persists after washing affected area, get medical attention promptly. Wash clothing before reuse.

Inhalation: If inhaled, immediately remove victim to fresh air and call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: If large amounts are swallowed and person is conscious, induce vomiting. Never induce vomiting for an unconscious person. Get medical attention.

SECTION 5. FIRE FIGHTING MEASURES

Flashpoint (OC): >400°F
Smokepoint: >200°F
LFL: No data available
Sensitive to Mechanical Impact? No
Extinguishing Media: Foam, carbon dioxide, or dry chemical.
Special Procedures: Water or foam may cause fothing. Once ignited, this product may be difficult to extinguish.
Carbon monoxide (toxic) and calcium oxide dust (caustic irritant) may be generated, making necessary the use of self-contained breathing apparatus (SCBA) and full protective equipment (bunker gear).
Relative Explosion Hazard: ST-1 Class, NFPA68-1978

Dust Auto Ignition Temp: >600°F
Fire Point: >500°F
UFL: No data available
Static? No

SECTION 6. ACCIDENTAL RELEASE MEASURES

Ventilate enclosed areas and use appropriate personal protective equipment. Scoop or vacuum spilled material in a manner to avoid the generation of dust. Reclaim product for re-use, if possible, or collect in DOT-approved containers for disposal in an appropriate manner.

SECTION 7. HANDLING AND STORAGE

Keep containers tightly closed. Store in a cool, dry, well-ventilated location, away from strong acids, bases, oxidizers and potential fire hazards.
**SECTION 8. PERSONAL PROTECTION**

**Respiratory Protection**
Dust mask required if total dust level exceeds 10 mg/m³

**EMERGENCY or entry into UNKNOWN concentrations:** Self-contained breathing apparatus with a full face piece operated in a pressure demand or other positive pressure mode; or any supplied air respirator with a full face piece operated in a pressure demand or other positive pressure mode in combination with auxiliary self-contained breathing apparatus operated in a pressure demand or other positive pressure mode.

**Escape:** Any air purifying full face piece respirator (gas mask) with a high efficiency particulate filter or any appropriate escape-type self-contained breathing apparatus.

**Skin Protection**
Gloves and aprons as needed to prevent skin contact. If large quantities are handled loosely to generate spillage and dust, use body coverings and boots. A safety shower and eye wash should be available.

**Eye Protection**
Safety goggles to prevent particles from entering eyes. Contact lenses should not be worn when working with this product unless covered with goggles.

**Engineering Controls**
Use general/local exhaust ventilation to keep dust concentrations low, eliminate ignition sources where dust is present.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance:</strong></td>
<td>Tan granular material</td>
</tr>
<tr>
<td><strong>Odor:</strong></td>
<td>Musty, fatty odor</td>
</tr>
<tr>
<td><strong>Boiling Point:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Solubility:</strong></td>
<td>Insoluble in water</td>
</tr>
<tr>
<td><strong>Specific Gravity:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Odor Threshold:</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Bulk Density:</strong></td>
<td>31 lbs./cu. ft.</td>
</tr>
<tr>
<td><strong>Physical State:</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>Melting Point:</strong></td>
<td>Not applicable (decomposes @ 150°C)</td>
</tr>
<tr>
<td><strong>Vapor Density:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>% Volatiles:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Evaporation Rate:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Oil/Water Coefficient:</strong></td>
<td>Not available</td>
</tr>
</tbody>
</table>

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**SECTION 10. STABILITY AND REACTIVITY**

**Stability:** Stable

**Conditions to Avoid:** Incompatible materials and excessive heat.

**Incompatibility:** Strong acids, bases and oxidizers.

**Hazardous Decomposition Products:** Smoke and irritating fumes. Carbon monoxide and calcium oxide may evolve from combustion.

**Hazardous Polymerization:** Will not occur.

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**SECTION 11. TOXICOLOGICAL INFORMATION**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Irritation Data:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Toxicity Data:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Mutagenicity Data:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Classification of Carcinogenicity:</strong></td>
<td>Not considered carcinogenic by NTP, IARC, or OSHA</td>
</tr>
</tbody>
</table>
SECTION 12. DISPOSAL CONSIDERATIONS

This product is not regulated as a hazardous waste under RCRA. DO NOT discharge to sewer. Bury in a secure landfill in accordance with all local, state and federal environmental regulations. Empty bags may be incinerated or discarded as general trash.

SECTION 13. TRANSPORT INFORMATION

Proper Shipping Name: None regulated
Technical Shipping Name: Ener GII™
D.O.T. Label/Placard: None required

Hazard Class: None
ID No.: None
Packaging Group: None

SECTION 14. REGULATORY INFORMATION

United States

EPA TSCA Inventory List: Not listed
Atmospheric Standards: Not regulated
CERCLA: Not regulated

Water Standards: Not regulated
Soil Standards: Not regulated
SARA Title III: This product is not regulated under Section 302, 311, 312 or 313 of SARA

Other Regulations

California - Exposure Limits - PELs: None listed
   Ceiling: None listed
   Notations: None listed

   Direct List of Haz. Substances: Not listed

Florida - Hazardous Substances List: Not listed

Massachusetts - Right-to-Know List: Not listed

   Minnesota - Haz. Subs. List: Not listed

   New Jersey - Right-to-Know List: (Total): Not listed

Pennsylvania - Right-to-Know List: Not listed

   Michigan - Critical Materials List: Not listed

Canada - WHMIS: Ingredient Disclosure List: Not listed
   Risk Phrases: None required.

SECTION 15. OTHER INFORMATION

Bioproducts, Inc., makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user’s responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Bioproducts, Inc., as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Bioproducts, Inc., assume liability arising out of the use by others of this product referred to herein. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other materials or in any process.