1. PRODUCT AND COMPANY IDENTIFICATION

Product name: ZINC STEARATE ED HS POWDER

Chemical name: Zinc stearate

Use of substance/preparation: Lubricant Chemical intermediate

Supplier: PMC Biogenix Inc.
1231 Pope Street
Memphis, TN 38108 USA

Emergency telephone number: CHEMTREC (24 hours) 800-424-9300

Environmental, Health and Safety Department: 901-320-5883
Customer Service: 800-641-2152

Prepared by Product Safety Department Date of Issue: 02/29/2008

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

USUAL HAZARDS ASSOCIATED WITH ORGANIC DUSTS. THE POSSIBILITY OF EXPLOSION EXISTS UNDER DUSTY CONDITIONS. AVOID DUSTING WHEN HANDLING AND AVOID ALL POSSIBLE SOURCES OF IGNITION (SPARK AND FLAME).

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>% BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc stearate</td>
<td></td>
</tr>
<tr>
<td>CAS# 557-05-1</td>
<td></td>
</tr>
<tr>
<td>Octadecanoic acid</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>CAS# 57-11-4</td>
<td></td>
</tr>
</tbody>
</table>

MSDS # 10454EUEN
Zinc hydroxide
CAS# 20427-58-1

< 1.5

4. FIRST AID MEASURES

**Swallowing**
No emergency care anticipated.

**Inhalation**
Remove to fresh air.

**Skin contact**
Wash skin with soap and water.

**Eye contact**
Flush eyes thoroughly with water for several minutes. Obtain medical attention if discomfort persists.

5. FIRE-FIGHTING MEASURES

Flash point: 451 °F 233 °C

**Hazardous combustion products**
Carbon monoxide.
Carbon dioxide.

**Special fire fighting procedures**
Do not direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.

**Special protective equipment for firefighters**
Firefighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained breathing apparatus and protective clothing.

**Extinguishing media**
Suitable: Extinguish with:
- dry chemical
- water spray
- CO2
- foam

6. ACCIDENTAL RELEASE MEASURES

**Environmental precautions**
This product is insoluble in water and will float on the surface.

**Methods for cleaning up**
Avoid dispersion of dust.
Eliminate sources of ignition.
Sweep up and collect in a suitable container for disposal.
Sweep up using non-sparking equipment.
Observe government regulations.
7. HANDLING AND STORAGE

HANDLING
Handling precautions
Avoid dispersion of dust to reduce fire and explosion potential.

STORAGE
Storage requirements
Store at ambient temperature., Keep drums tightly closed to prevent contamination.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

<table>
<thead>
<tr>
<th>Component</th>
<th>Country</th>
<th>Type</th>
<th>Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc stearate</td>
<td>USA</td>
<td>TWA, OSHA</td>
<td>15 mg/m³</td>
<td>Total dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA-TLV, ACGIH</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL-TWA, OSHA</td>
<td>5 mg/m³</td>
<td>Respirable fraction</td>
</tr>
<tr>
<td>Octadecanoic acid</td>
<td></td>
<td>PEL, OSHA</td>
<td>5 mg/m³</td>
<td>Respirable dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL, OSHA</td>
<td>15 mg/m³</td>
<td>Total dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA, ACGIH</td>
<td>10 mg/m³</td>
<td>Total dust for nuisance particulates</td>
</tr>
<tr>
<td>Particulates not otherwise regulated</td>
<td>TWA, OSHA</td>
<td>15.0 mg/m³</td>
<td>Total dust</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA, OSHA</td>
<td>5.0 mg/m³</td>
<td>Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA - ACGIH</td>
<td>10.0 mg/m³</td>
<td>Total inhalable dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA - ACGIH</td>
<td>3.0 mg/m³</td>
<td>Respirable fraction</td>
</tr>
</tbody>
</table>

PERSONAL PROTECTION

Respiratory protection
Use NIOSH/MSMA certified dust mask and/or respirator where appropriate.

Hand protection / protective gloves
Neoprene

Eye protection
Monogoggles
Skin protection
Rubber or plastic apron

ENGINEERING CONTROLS

Ventilation
Adequate ventilation to keep dust level below TLV.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE
Physical state
Powder
Color
White
Odor
Slight fatty

OTHER PROPERTIES
Boiling point
Decomposes
Melting point
120 °C
248 °F

Vapor pressure

Solubility in water
Insoluble
Flash point
451 °F
233 °C
Method: Cleveland open cup ASTM D 92
Percent volatiles
< 1 %(m)

10. STABILITY AND REACTIVITY

Stability:
Stable.

Stability - Conditions to avoid:
Stable under normal conditions.

Incompatible materials:
Strong oxidizing agents.

Hazardous combustion products:
Carbon monoxide.
Carbon dioxide.

Hazardous polymerization:
Will not occur.
11. TOXICOLOGICAL INFORMATION

SWALLOWING
Acute effects
Low acute toxicity.

SKIN ABSORPTION
Acute effects
Low acute toxicity.

INHALATION
Acute effects
Dust may cause irritation of the respiratory tract.

SKIN CONTACT
Acute effects
May cause slight irritation.

Test results
Skin irritation: Species: Rabbit
Exposure time: 24 h
Result: Very slight erythema / edema
Classification: Not irritant
Remark: Occluded

EYE CONTACT
Acute effects
May cause slight irritation.

12. ECOLOGICAL INFORMATION

Not expected to be acutely toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

General: It is our opinion this product is not a RCRA hazardous waste. It is the generator's responsibility to make their own determination as to the RCRA status of waste they generate. We have not performed a Toxicity Characteristic Leachate Procedure (TCLP) on this product., Incinerate in a furnace where permitted under appropriate Federal, State, and local regulations.

Non-cleaned packages
Subject completely emptied paper bags to paper recycling.

14. TRANSPORT INFORMATION

DOT Classification

This product is not regulated by DOT.
IMDG Classification

This product is not regulated by IMDG.

ICAO Classification

This product is not regulated by ICAO.

15. REGULATORY INFORMATION

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of hazardous substances equal to or greater than the reportable quantities (RQ's) in 40CFR302.4.

Components present in this product at a level which could require reporting under the statute are:

**** NONE ****

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on Reportable Quantities (RQ's) in 40CFR355 (used for SARA 302 and 304).

Components present in this product at a level which could require reporting under the statute are:

**** NONE ****

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS#</th>
<th>Max weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc stearate</td>
<td>557-05-1</td>
<td>&gt;97.00</td>
</tr>
<tr>
<td>Zinc hydroxide</td>
<td>20427-58-1</td>
<td>&lt; 1.50</td>
</tr>
</tbody>
</table>

Pennsylvania Right-To-Know Hazardous Substance List--Hazardous Substances and Special Hazardous Substances on the list must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

<table>
<thead>
<tr>
<th>Chemical name</th>
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</tbody>
</table>

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS#</th>
<th>New Jersey TS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc stearate</td>
<td>557-05-1</td>
<td></td>
</tr>
</tbody>
</table>

Octadecanoic acid

57-11-4

Zinc hydroxide

20427-58-1

EPA Hazard Categories (SARA 311, 312):

None

CHEMICAL INVENTORY

Canada: This product is on the DSL.

Europe: This product is on the EINECS inventory. 209-151-9

United States: This product is on the TSCA inventory.

Australia: This product is on the AICS inventory.

China: The ingredients of this product are on the IECSC inventory.
Japan: This product is on the ENCS inventory.
Korea: This product is listed on the Existing Chemicals List (ECL).
Philippines: This product is on the PICCS.

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS RATING</th>
<th>Health: 0</th>
<th>Flammability: 1</th>
<th>Reactivity: 0</th>
<th>PPI:</th>
</tr>
</thead>
<tbody>
<tr>
<td>STP</td>
<td>Standard temperature and pressure</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>W/W</td>
<td>Weight/Weight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 (HMIS)</td>
<td>Slight hazard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (HMIS)</td>
<td>Moderate hazard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (HMIS)</td>
<td>Serious hazard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (HMIS)</td>
<td>Severe hazard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X (HMIS)</td>
<td>Personal protection rating to be supplied by user depending on use conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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