1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Magnesium Stearate
Chemical name: Fatty acids, hydrogenated, magnesium salts
Chemical family: Fatty acid salts
Manufacturer's code: SAK-MS (all grades)
Use: Lubricant

Manufacturer: SUN ACE KAKOH (PTE.) LTD.
Address: 34 TANJONG PENJURU, JURONG TOWN
          SINGAPORE 609030
Telephone: (65) – 6264-0255
Contact person: Chemists (Technical Department)

2. HAZARDS IDENTIFICATION

GHS classification

Physical hazards: Not classified
Health hazards: Not classified

Concentrated dust may present an explosive hazard

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name</th>
<th>CAS. No.</th>
<th>Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, hydrogenated,</td>
<td>Magnesium stearate</td>
<td>557-04-0 / 91031-63-9</td>
<td>&gt; 92.5</td>
</tr>
<tr>
<td>Magnesium salts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free Fatty Acid</td>
<td>Palmitic &amp; Stearic Acid</td>
<td>67701-03-5</td>
<td>&lt; 2.0</td>
</tr>
<tr>
<td>Acid mixture</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye contact: Wash thoroughly with running clean water. Get medical advice if irritation develops.

Skin contact: Wash with clean water

Inhalation: Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion: Seek medical advice

Acute and delayed symptoms: The available information indicates that magnesium stearate is generally non-toxic. High concentration of dust may cause coughing and mild temporary irritation. May be slightly irritation to eye.

First aid and notes for physicians: Magnesium stearate practically is of low toxicity
5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide, dry chemical powder, alcohol foam, water spray. Water or foam may cause frothing.

Unsuitable extinguishing media: Water jet

Specific hazards arising from the chemical: Carbon monoxide, carbon dioxide and magnesium oxides

Specific protective equipment and precautions for fire-fighters: In the event of a fire, wear full protective clothing and approved self-contained breathing apparatus. Fight fire from a safe distance or a protected location. Under certain conditions, a dust cloud of magnesium stearate can explode when ignited by a spark, flame or other ignition source. Must avoid generating dust to minimise risk of explosion.

6. ACCIDENTAL RELEASE MEASURES

Personal protective equipment: Eye - Wear appropriate protective safety glasses
Skin - Wear appropriate protective gloves and clothing
Put on an appropriate respirator

Containment procedure: Keep unnecessary personnel away. Eliminates all sources of ignition. Do not allow the spilled product to enter sewers or open waterways.

Clean-up procedure: Avoid the generation of dust during the clean-up. Vacuum spills or cover with damp sand or saw-dust if sweep.

7. HANDLING AND STORAGE

Safe handling procedure: Open packaging bag carefully, avoid spillage and dust formation and control ignition sources. Use this product with adequate ventilation. Wash hand after handling.

Storage: Store in cool, dry place to avoid the effects of heat and moisture. Keep container tightly closed and properly labeled. Avoid exposure to sunlight, heat and spark. Ground all equipment containing material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit: NIOSH REL: TWA 10mg/m³ (Total), TWA 5mg/m³ (Resp)
OSHA PEL: TWA 15mg/m³ (Total), TWA 5mg/m³ (Resp)

Engineering controls: General room ventilation plus local exhaust at points of emission to maintain levels of airborne contaminants below exposure limits.
Personal protective equipment

Respiratory: An appropriate dust respirator. Should be used as a precautionary measure where airborne contaminants may occur.

Eye: Recommend but not must for safety glasses or chemical safety goggles

Hand: Protective gloves

Body: Overall or dust cloth, change daily.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Fine, soft white powder, granules
Odour: Slight fatty acid odour
Odour threshold: Data not available
pH (water slurry at 25°C): Data not available
Melting point: 130 – 150°C
Initial b. point and boiling range: Data not available
Flash point: > 177°C, C.O.C
Evaporation rate: Not applicable
Flammability: Non-flammable but combustible
Lower flammable (Explosive) limit: Data not available
Vapour pressure: Data not available
Vapour density: Data not available
Relative density: 1.1
Solubility: Insoluble in water, alcohol and ether; soluble in benzene and in heated common solvents; decomposed by diluted acids.

Octanol / water partition coefficient: 14.34 (As log Pow)
Auto ignition temperature: > 371°C
Decomposition temperature: Data not available
Viscosity: Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal condition of storage & transport
Possibility of hazardous reactions: Decomposed by acids, oxidizing agents and alkalies
Conditions to avoid: Incompatible materials, static charge, sparks, heat and other ignition sources, generation of dust
Incompatible materials: Can react with acids, oxidizing agents and alkalies
Hazardous decomposition products: Carbon monoxide, carbon dioxide and magnesium oxide fume

11. TOXICOLOGICAL INFORMATION

Routes of exposure: Can occur through inhalation, ingestion and eye or skin contact.

Acute health effects

Eye contact: Dust or mist may be slightly irritating.
Skin contact: Probably not irritating and not absorbed.
Inhalation: High concentration of dust may cause coughing and mild temporary irritation.

Ingestion: Oral toxicity is low.

Chronic health effects: Long term exposures to high concentration of dust may cause increased mucous flow in the nose and respiratory system airways. This condition usually disappears after exposure ceases.

Carcinogenicity: No information available.

Reproductive toxicity: No information available.

Mutagenicity: No information available.

Toxicity data:
LD50 (Oral, Rat): Above 10,000 mg/kg

12. ECOLOGYICAL INFORMATION

Aquatic and terrestrial ecotoxicity: No information available

Persistence and degradability: Not expected to bioaccumulate, knowing that fatty acids will degrade by the Beta oxidation pathway

Bioaccumulation: Not expected to bioaccumulate.

Mobility in soil: No information available

The product should be prevented from entering drains, sewers, streams etc.

13. DISPOSAL CONSIDERATIONS

Disposal method: Dispose of waste in accordance with local regulations and acts. Contaminated packaging must be treated in the same manner as the product itself.

Precautions for disposal: Prevent material from entering drains, sewers, streams etc.

14. TRANSPORATION INFORMATION

UN No.: Not regulated

UN proper shipping name: Not regulated

Transport hazard class: Not regulated

Packing group: -

Special shipping instructions: -

15. REGULATORY INFORMATION

TSCA Chemical Inventory: This material is on the EPA Toxic Substance Control Act (TSCA) inventory list

California Proposition 65: To the best of our knowledge, this product contains no levels of listed substances, which the state of California has found to cause cancer, birth defects or other reproductive effects.

Laguna Clay Company www.Lagunaclay.com 1-800-4Laguna info@Lagunaclay.com
SARA Title III
Section 302 Extremely Hazardous Substances : No
Section 311/312 Hazardous Categories : No
Section 313 Toxic Chemicals : No

16. OTHER INFORMATION

HMIS Rating
Health 0  Reactivity 0  Flammability 1

NFPA Rating
Health 0  Fire 1  Reactivity 0

MSDS creation date : September 2007
Revision date : 08/12/2011 (B)
Revision number : 6

Disclaimer:

"To the best of our knowledge the information contained herein is correct at the time of writing, and it is subject to change without prior notice. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely.

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Laguna Clay Company
14400 Lomitas Ave
City of Industry, CA 91746
1-800-4Laguna
info@lagunaclay.com
www.lagunaclay.com