Material Safety Data Sheet

PRODUCT NAME: METHYL PALMITATE-STEARATE PME 1618 DPK

CHEMICAL PRODUCT AND DISTRIBUTOR IDENTIFICATION

PRODUCT NAME: Methyl Palmitate-Stearate PME 1618 DPK (Refined Palm Kernel-based)
CAS #: 67762-38-3
DATE: November 10, 2010
DISTRIBUTOR: ACME-HARDESTY COMPANY
ADDRESS: 450 Sentry Parkway
           Blue Bell, PA  19422
TELEPHONE: (866) 226 – 3834
FAX: (215) 591 – 3620
EMERGENCY: CHEMTREC (800) 424-9300

COMPOSITION / INFORMATION ON INGREDIENTS

SYNONYMS: Fatty acids, palm oil, methyl esters

<table>
<thead>
<tr>
<th>COMPOSITION</th>
<th>CHEMICAL FORMULA</th>
<th>CAS #</th>
<th>WT/WT %</th>
<th>EC NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty Acids, Palm Oil</td>
<td>C_{n+1}H_{2n+2}O_{(n+3-17)}</td>
<td>67762-38-3</td>
<td>99 – 100</td>
<td>267-015-4</td>
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<tr>
<td>Methyl Esters</td>
<td>C_{18}H_{34}O_{2} &amp; C_{18}H_{32}O_{2}</td>
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HAZARDS IDENTIFICATION

Classified as non-hazardous to human and environment

FIRST AID MEASURES

INHALATION: ACUTE/HAZARD SYMPTOM: May cause irritation
FIRST AID: Remove source of contamination and move victim to fresh air.
           If adverse effects occur, remove to uncontaminated area.
           Give artificial respiration if not breathing.
           Get immediate medical attention.

SKIN CONTACT: ACUTE/HAZARD SYMPTOM: May cause redness
FIRST AID: Wash off with plenty of water and soap.
           If skin irritation occurs, seek medical advice/attention.
           Take off contaminated clothing and wash before reuse.

EYE CONTACT: ACUTE/HAZARD SYMPTOM: May cause irritation
FIRST AID: Rinse cautiously with water for several minutes.
           Remove contact lenses, if present and easy to do, and continue rinsing.
           If eye irritation persists, seek medical advice/attention.

INGESTION: ACUTE/HAZARD SYMPTOM: May cause irritation
FIRST AID: Rinse mouth and do NOT induce vomiting.
           If vomiting occurs, keep head lower than hips to help prevent aspiration.
           If person is unconscious, turn head to the side.
           Seek medical attention immediately.
FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:  Dry chemical, appropriate foam or carbon dioxide

SPECIFIC HAZARDS:  Combustible when exposed to heat or flame
                    Thermal decomposition will evolve irritant vapors

PROTECTION FOR FIRE-FIGHTERS:  Move container from fire area if it can be done without risk
                                Do not scatter spilled material with high-pressure water streams
                                Dike for later disposal
                                Use extinguishing agents appropriate for surrounding fire
                                Avoid inhalation of material or combustion by-products
                                Stay upwind and keep out of low areas

ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:  Avoid contact with eyes. Do not breathe vapor.

ENVIRONMENTAL PRECAUTIONS:  Minimize contamination of drains, surface, and ground waters.

METHODS FOR CLEANING UP:
SMALL SPILLS:  Absorb with inert material and put spilled material in appropriate container for disposal

LARGE SPILLS:  Absorb with inert material and put spilled material in appropriate container for disposal
               Ventilate area and wash spill site and allow to evacuate through the sanitary system

HANDLING AND STORAGE

HANDLING:  Keep away from heat and sources of ignition
            Empty containers pose a fire risk
            Evaporate the residue under a fume hood
            Ground all equipment containing material
            Do not ingest – If ingested, seek medical advice immediately
            Avoid contact with skin and eyes
            Do not breathe vapors
            Wear suitable protective clothing in case of insufficient ventilation
            Wear suitable respiratory equipment

STORAGE:  Store in the original closed containers
          Can be stored in most common storage vessels including carbon steel
          Keep in cool, dry place
          Storage Class:  VCI-Storage Class:  10 (BRD)
          Safe Storage/Transport Pressure:  Ambient
          Load/Unload Temperature:  32 – 36°C
EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE: No occupational exposure limits have been established.

VENTILATION: Provide local exhaust ventilation system
Ensure compliance with applicable exposure limits

PERSONAL PROTECTIVE EQUIPMENT:
SKIN/BODY PROTECTION: Wear chemical resistant gloves

EYE PROTECTION: Wear splash resistant safety goggles and face shields

RESPIRATORY PROTECTION: May be needed under conditions of frequent use of heavy exposure
Consider warning properties before use
Any Chemical cartridge respirator with organic vapor cartridge(s)
Any chemical cartridge respirator with full face piece & organic vapor cartridge
Any air-purifying respirator with full face piece and an organic vapor canister

ENGINEERING MEASURES:
HYGIENE MEASURES: Ensure ventilation or local exhaust if formation of vapor occurs.
Good industrial hygiene should be followed.

PHYSICAL AND CHEMICAL PROPERTIES

THE VALUES LISTED BELOW ARE NOT PRODUCT SPECIFICATIONS:

APPEARANCE: Yellowish liquid
ODOR: Musty
ODOR THRESHOLD: Not available
pH: Not Applicable
MELTING POINT, °C: 8°C
BOILING POINT, °C: Approx. 204 @ 760 mm Hg
FLASH POINT, °C: Approx. 218°C (Pensky-Marten Closed Cup)
EVAPORATION RATE: Not applicable
FLAMMABILITY (Solid/Liquid): OSHA Flammability Class III-B
VAPOR PRESSURE @ 20°C: Not available
VAPOR DENSITY (Air=1): Not available
RELATIVE DENSITY @ 25°C, g/cm³: 0.86
SOLUBILITY IN WATER @ 20°C: Insoluble
PARTITION COEFFICIENT: n-octanol/water: Not available
AUTO-IGNITION TEMPERATURE: Not available
DECOMPOSITION TEMPERATURE, °C: Not available
VISCOSITY @ 35°C: Approx. 7 mPa.s
EXPLOSION LIMITS: Doesn’t contain explosive properties
OXIDATION PROPERTIES: Doesn’t contain oxidizing properties

STABILITY AND REACTIVITY

REACTIVITY: Not a self-reactive substance
CHEMICAL STABILITY: Stable under normal temperatures and pressure
CONDITIONS TO AVOID: Heat, flames, sparks and other sources of ignition
MATERIALS TO AVOID: Incompatible materials/oxidizing agents and strong bases
HAZARDOUS REACTIONS: Will not polymerize
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition will evolve irritant vapors
Thermal decomposition products: Oxides of carbon and water
TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: LD50 (oral, rat) = > 2,000 mg/kg body weight
LD 50 (dermal) = Not available
LC 50 (inhalation) = Not available

SKIN CORROSION/IRRITATION: Not classified (rabbit)
EYE DAMAGE/IRRITATION: Not classified (rabbit)
SENSITIZATION: No evidence of skin sensitization (guinea-pig)

STOT – SINGLE/REPEATED EXPOSURE: Not available
ASPIRATION HAZARD: Not available

CMR EFFECTS:
CARCINOGENICITY: Not listed by ACGIH, IARC, NTP, DFG or OSHA
GERM CELL MUTAGENICITY: Negative in AMES test
REPRODUCTIVE TOXICITY: Not Listed:
  CA Prop 65 Developmental Toxin
  U.S. TRI Developmental Toxin
  CA Prop 65 Female Reproductive Toxin
  California Proposition 65 Male Reproductive Toxin
  U.S. TRI Reproductive Toxin

ECOLOGICAL INFORMATION

ACUTE TOXICITY: ACUTE: 96 hrs LC50 (fish) > 100 mg/L
CHRONIC: Not available

MOBILITY IN SOIL: Not available

BIODEGRADABILITY: Readily Biodegradable

BIO-ACCUMULATIVE POTENTIAL: Not available

OTHER ADVERSE EFFECTS: Not available

DISPOSAL CONSIDERATIONS

Disposal is to be performed in compliance with all Federal, State/Provincial and local regulations.
Do not dispose of via sinks, drains or into the immediate environment.
TRANSPORT INFORMATION

UN MODEL REGUALTION: Not classified
LAND TRANSPORT ADR/RID/ADN: Not classified
AIR TRANSPORT ICAO-TI and IATA-DGR: Not classified
MARITIME TRANSPORT IMDG: Not classified
U.S. DOT INFORMATION: Not classified

BULK TRANSPORT:
ANNEX II of MARPOL 73/78:
Name: Palm Oil Fatty Acid Methyl Ester
Pollution Category: Y
Ship Type: 2

REGULATORY INFORMATION

GHS CLASSIFICATION: Not classified as hazardous material to human or environment

U.S. FEDERAL REGULATIONS: No product components are listed under:
SARA Section 302 (40 CFR 355)
SARA Section 311/312 (40 CFR 370.21)
SARA Section 313 (40 CFR 372.65)
CERCLA (40 CFR 302.4)

GERMANY WATER CLASSIFICATION/ WGK (Wassergefährdungsklassen):
Number 834, Hazard Class 1 – Low hazard to waters

NATIONAL CHEMICAL INVENTORY LISTING:
EUROPE (EINECS): Compliant
USA (TSCA): Compliant
CANADA (DSL): Compliant
AUSTRALIA (AICS): Compliant
JAPAN (ENCS): Compliant
CHINA (IECSC): Compliant
KOREA (ECL): Compliant
NEW ZEALAND (NZIOC): Compliant

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Users must make their own determination that handling, storage and use of the product in the anticipated manner is safe and appropriate. Because these actions of the user are out of our control, and may be beyond our knowledge, we do not assume responsibility and expressly disclaim liability for loss, damage, expense or any other claim arising out of or in any way connected with the handling, storage, use or disposal of the product.

Disposal of containers must comply with applicable federal, state and local laws and regulations. Empty containers should never be given to individuals.