Material Safety Data Sheet

PRODUCT NAME: RICINOLEIC ACID

IDENTIFICATION AND DISTRIBUTOR INFORMATION

<table>
<thead>
<tr>
<th>TRADE NAME:</th>
<th>RICINOLEIC ACID</th>
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<tbody>
<tr>
<td>CAS #:</td>
<td>141-22-0</td>
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<tr>
<td>EINECS#:</td>
<td>205-470-2</td>
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<td>DATE:</td>
<td>March 29, 2008</td>
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</tbody>
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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

HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Ricinoleic Acid is not a hazardous material nor does it contain any hazardous ingredients.

FIRST AID MEASURES

EYES: Rinse with plenty of water.
SKIN: Wash with plenty of water and soap.
INGESTION: Rinse the mouth.
INHALATION: Remove to fresh air immediately.

FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam, carbon dioxide, water, dry chemical powder
UNSUITABLE MEDIA: No restrictions. In case of fire, carbon monoxide and carbon dioxide can be formed.
PROTECTIVE EQUIPMENT: Standard fireman’s body protection and self-contained breathing apparatus is recommended.

ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear suitable respiratory protection.
ENVIRONMENTAL PRECAUTIONS: None.
METHODS FOR CLEAN UP: Sweep dry and flush with water and soap.
HANDLING & STORAGE

HANDLING: Avoid spills and keep away from sources of ignition.
STORAGE: Keep containers closed and in dry shaded area, away from heat.

EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING MEASURES: No special measures required.
CONTROL PARAMETERS: None.

PERSONAL PROTECTION:
RESPIRATORY: None.
HAND: Hand savers.
EYES: Protective glasses.
SKIN: Chemical resistant gloves.

PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Yellowish, viscous liquid
ODOR: Natural, non-offending
pH: Not applicable
BOILING POINT @ 10mm Hg, °C: >245
MELTING POINT, °C: ~5.5
FLASH POINT, °C: > 190
FLAMMABILITY: None
AUTO FLAMMABILITY: None
EXPLOSIVE PROPERTIES: None
OXIDIZING PROPERTIES: None
VAPOR PRESSURE: Not applicable
RELATIVE DENSITY: About 0.94 @ 25°C
SPECIFIC GRAVITY: 0.94
SOLUBILITY:
WATER: Insoluble
OIL: Soluble in alcohol, acetone, ether, chloroform at room temperature

STABILITY & REACTIVITY

CONDITIONS TO AVOID: Keep away from oxidizing materials and sources of heat.
MATERIALS TO AVOID: Alkalies.
HAZARDOUS DECOMPOSITION: None if handled and stored according to prescription.

TOXICOLOGICAL INFORMATION

Expected LD50 oral rat >5000 mg/kg based on data taken from similar product.

DISPOSAL CONSIDERATIONS

Take up spills with sand and/or flush spill area with detergent/soap and water. Then dispose according to the local regulations.
TRANSPORT INFORMATION

Not classified as hazardous.

ECOLOGICAL INFORMATION

MOBILITY: Not determined.
DEGRADABILITY: Readily biodegradable
ACCUMULATION: Minimum biodegradability is 60% BSB30/CSB resp. 70% DOC

SHORT AND LONG TERM EFFECTS ON ECOTOXICITY:
  Acute fish toxicity LCO > 100 mg/L
  Bacteria toxicity ECO > 100 mg/L
OTHER ADVERSE EFFECTS: None

REGULATORY INFORMATION

According to EEC Council Directive, it is not a dangerous substance, but suitable precautions of handling chemicals should be taken. It is registered with EINECS, TSCA, DSL, MITI, AICS.

HMIS: 0-1-0
NFPA: 0-1-0

The data herein are based on our current knowledge and believed to be reliable. Acme-Hardesty Co., provides this information without any representation or warranty, expressed or implied, regarding its accuracy or correctness.

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.