1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 90014
Product Name: Arachidonic Acid methyl ester
Synonyms: 5Z,8Z,11Z,14Z-eicosatetraenoic acid, methyl ester; Methyl Arachidonate;
Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

Company Name: Cayman Chemical Company
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887
Information: Cayman Chemical Company +1 (734)971-3335
Web site address: www.caymanchem.com

2. Hazards Identification

<table>
<thead>
<tr>
<th>GHS Classification</th>
<th>Placard</th>
<th>Key word</th>
<th>GHS Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Heating Substances, Category 2</td>
<td>Flame</td>
<td>Warning</td>
<td>Self-heating in large quantities; may catch fire</td>
</tr>
<tr>
<td>Flammable Liquids, Category 2</td>
<td>Flame</td>
<td>Danger</td>
<td>Highly flammable liquid and vapor</td>
</tr>
</tbody>
</table>

GHS Hazard Phrases:
- H225: Highly flammable liquid and vapor
- H252: Self-heating in large quantities; may catch fire
- EUH019: May form explosive peroxides.

GHS Precaution Phrases:
- P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.
- P235+410: Keep cool and protect from sunlight.

GHS Response Phrases:
- P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

GHS Storage and Disposal Phrases:
- Please refer to Section 7 for Storage and Section 13 for Disposal information.
- P420: Store away from other materials.
- P407: Maintain air gap between stacks/pallets.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic):
- Causes eye, skin, or respiratory system irritation.
- Material is irritating to the mucous membranes and upper respiratory tract.
- May be harmful by inhalation, ingestion, or skin absorption.
- May form explosive peroxides.

Target Organs: Central nervous system, Blood, Eyes, Reproductive system, Heart, Respiratory system, Liver, Skin.

LD 50 / LC 50:
- Please refer to Section 11.

Signs and Symptoms Of Exposure:
- Irritating to eyes, skin, nose; may cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.
- To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure:
- No data available.
3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Concentration</th>
<th>EC#</th>
<th>Risk Phrases</th>
<th>RTECS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arachidonic Acid methyl ester</td>
<td>2566-89-4</td>
<td>10.0 %</td>
<td>219-900-1</td>
<td>R19</td>
<td>NA</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>90.0 %</td>
<td>200-578-6</td>
<td>R11</td>
<td>KQ6300000</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Emergency and First Aid Procedures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Indication of any immediate medical attention and special treatment needed: No data available.

5. Fire Fighting Measures

Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media: A solid water stream may be inefficient.

Flammable Properties and Hazards:

Flash Pt: 14.00 C    Method Used: Closed Cup
Autoignition Pt: 363.00 C
Explosive Limits: LEL: 3.3% at 25.0 C    UEL: 19.0% at 25.0 C

Hazardous Combustion Products: No data available.

Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Note: Flammable as diluted in ethanol.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures: Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

Steps To Be Taken In Case Material Is Released Or Spilled:

Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling:

Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge.
Precautions To Be Taken in Storing: Keep away from heat, sparks, and flame.
Keep container tightly closed.
Store in accordance with information listed on the product insert.

Other Precautions: Hygroscopic.

Hazard Label Information: Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arachidonic Acid methyl ester</td>
<td>2566-89-4</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>1000 ppm</td>
<td>1000 ppm</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arachidonic Acid methyl ester</td>
<td>2566-89-4</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>TWA: 1920 mg/m3 (1000 ppm) STEL: ()</td>
<td>TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)</td>
<td>No data.</td>
</tr>
</tbody>
</table>

Protective Equipment Summary - Hazard Label Information:
- Compatible chemical-resistant gloves
- Eye wash station in work area
- Lab coat
- Safety glasses
- Safety shower in work area
- Vent Hood

Engineering Controls (Ventilation etc.):
- Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Eye Protection:
- Safety glasses

Protective Gloves:
- Compatible chemical-resistant gloves

Other Protective Clothing:
- Lab coat

Respiratory Equipment (Specify Type):
- NIOSH approved respirator, as conditions warrant.

Work/Hygienic/Maintenance Practices:
- Do not take internally.
- Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
- Wash thoroughly after handling.

Environmental Exposure Controls:
- No data available.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States: [ ] Gas [X] Liquid [ ] Solid
Appearance and Odor: Solution
Melting Point: No data.
Boiling Point: No data.
Flash Pt: 14.00 C Method Used: Closed Cup
Evaporation Rate: No data.
Explosive Limits: LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C
Vapor Pressure (vs. Air or mm Hg): 43 MM_HG at 20.0 C
Vapor Density (vs. Air = 1): No data.
Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Autoignition Pt: 363.00 C
Explosive Properties: No data available.
SAFETY DATA SHEET
Arachidonic Acid methyl ester

Oxidizing Properties: No data available.
Other Information
Percent Volatile: No data.
Formula: C21H34O2
Molecular Weight: 318.50

10. Stability and Reactivity
Reactivity: No data available.
Stability: Unstable [ ] Stable [ X ]
Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid: heat, flames and sparks
Polymerization: Will occur [ ] Will not occur [ X ]
Incompatibility - Materials To Avoid: alkali metals ammonia peroxides strong oxidizing agents
Hazardous Decomposition Or Byproducts: carbon dioxide carbon monoxide

11. Toxicological Information
Toxicological Information: The toxicological effects of this product have not been thoroughly studied.
Ethanol - Toxicity Data: Oral TDLO (man): 1.14 ml/kg; Oral TDLO (man): 650 mg/kg; Oral LD50 (rat): 7,060 mg/kg; Oral LD50 (mouse): 3,450 mg/kg; Oral LD50 (mouse): 10.5 ml/kg; Oral LD50 (rabbit): 6,300 mg/kg; Inhalation LC50 (rat): 20,000 ppm (10h); Inhalation TCLO (human): 1,800 ppm (30m); Inhalation TCLO (human): 2,500 mg/m3 (20m); Inhalation LC50 (rat): 5,900 mg/m3 (6h); Inhalation LC50 (mouse): 29,300 ppm (7h);
Ethanol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 20 mg (24h) moderate;
Ethanol - Investigated as a mutagen, reproductive effecter, and tumorigen.
Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.
Ethanol RTECS Number: KQ6300000

12. Ecological Information
General Ecological Information: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations
Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

14. Transport Information
Globally Harmonized System of Classification and Labelling
Self-Heating Substances, Category 2 - Warning! Self-heating in large quantities; may catch fire
Flammable Liquids, Category 2 - Danger! Highly flammable liquid and vapor

LAND TRANSPORT (US DOT)
**SAFETY DATA SHEET**

**Arachidonic Acid methyl ester**

<table>
<thead>
<tr>
<th>DOT Proper Shipping Name</th>
<th>Ethyl Alcohol Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Hazard Class:</td>
<td>3</td>
</tr>
<tr>
<td>DOT Hazard Label:</td>
<td>FLAMMABLE LIQUID</td>
</tr>
<tr>
<td>UN/NA Number:</td>
<td>1170</td>
</tr>
<tr>
<td>Packing Group:</td>
<td>II</td>
</tr>
</tbody>
</table>

**LAND TRANSPORT (European ADR/RID)**

<table>
<thead>
<tr>
<th>ADR/RID Shipping Name</th>
<th>Ethyl Alcohol Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Number:</td>
<td>1170</td>
</tr>
<tr>
<td>Hazard Class:</td>
<td>3 - FLAMMABLE LIQUID</td>
</tr>
<tr>
<td>Packing Group:</td>
<td>II</td>
</tr>
<tr>
<td>ADR Classification:</td>
<td>3</td>
</tr>
</tbody>
</table>

**AIR TRANSPORT (ICAO/IATA)**

<table>
<thead>
<tr>
<th>ICAO/IATA Shipping Name</th>
<th>Ethyl Alcohol Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Number:</td>
<td>1170</td>
</tr>
<tr>
<td>Hazard Class:</td>
<td>3 - FLAMMABLE LIQUID</td>
</tr>
<tr>
<td>Packing Group:</td>
<td>II</td>
</tr>
</tbody>
</table>

**Additional Transport Information:**

Transport in accordance with local, state, and federal regulations.

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**15. Regulatory Information**

**European Community Hazard Symbol codes**  
F: Highly Flammable

**European Community Risk and Safety Phrases**

- **R19** - May form explosive peroxides.
- **S7** - Keep container tightly closed.
- **S16** - Keep away from sources of ignition.
- **S24/25** - Avoid contact with skin and eyes.
- **S33** - Take precautionary measures against static discharges.
- **S36/37/39** - Wear suitable protective clothing, gloves and eye/face protection.

**US EPA SARA Title III**

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Sec.302 (EHS)</th>
<th>Sec.304 RQ</th>
<th>Sec.313 (TRI)</th>
<th>Sec.110</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arachidonic Acid methyl ester</td>
<td>2566-89-4</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Other US EPA or State Lists**

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>CAA HAP,ODC</th>
<th>CWA NPDES</th>
<th>TSCA</th>
<th>CA PROP.65</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arachidonic Acid methyl ester</td>
<td>2566-89-4</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>No</td>
<td>Inventory</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Regulatory Information Statement:**


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**16. Other Information**

**Revision Date:** 09/19/2012

**Company Policy or Disclaimer**

For research use only, not for human or veterinary use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

N.A. = Not available, N.P. = Not applicable, N.D. = Not determined, N.E. = Not established, N.R. = Not required