Section 1 – Identification

Product identifier: Methyl Esters

Other means of identification:

Synonyms: Methyl soyate, soy methyl esters (SME), rapeseed methyl esters (RME), canola methyl esters (CME), corn oil methyl esters, methyl tallowate, fatty acid methyl esters, fatty acid alkyl esters, FAME, methyl esters, methyl ester.

Recommended use: Fuel, solvent, cleaning agent, heating oil, blend stock

Restrictions on use: Not intended for direct human consumption

Supplier information:
REG Marketing & Logistics Group, LLC
416 S. Bell Ave
Ames, IA 50010
(888) 734-8686

Emergency phone number:
For Hazardous Materials [or Dangerous Goods] Incident, Spill, Leak, Fire, Exposure, or Accident call CHEMTREC Day or Night:
Domestic: 1-800-424-9300
International: +1 703-741-5970

Section 2 – Hazard(s) Identification

Classification (in accordance with 29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Hazard Category</th>
<th>Route of Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irritation</td>
<td>Category 2 (irritation)</td>
<td>Absorption</td>
</tr>
<tr>
<td>Eye Irritation</td>
<td>Category 2B (mildly irritating)</td>
<td>Absorption</td>
</tr>
</tbody>
</table>

Signal word: WARNING

Pictograms

Hazard Statements:
- H315 Causes skin irritation
- H320 Causes eye irritation

Precautionary statements:

Prevention: Wash hands thoroughly after handling. Wear protective gloves.

Response: If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage: No precautionary statement.

Disposal: No precautionary statement.
Section 3 – Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name &amp; Synonyms</th>
<th>CAS number</th>
<th>% of product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, C_{12-18} Me esters</td>
<td>Methyl Esters</td>
<td>68937-84-8</td>
<td>100%</td>
</tr>
</tbody>
</table>

Section 4 – First-Aid Measures

First-aid measures for exposure

Inhalation: Move to fresh air

Skin: Wash affected skin with soap and water. Take off contaminated clothing and wash it before reuse.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Ingestion: Rinse mouth out with water. If feeling unwell, seek medical attention.

Most important symptoms / effects

Acute: Causes skin and eye irritation.

Delayed / Chronic: No information available

Indication of immediate medical attention: Treat symptomatically and supportively.

Special treatment needed, if necessary: No special treatment identified.

Section 5 – Fire-Fighting Measures

Suitable extinguishing media: Water mist, firefighting foam, dry chemical, carbon dioxide, or clean extinguishing agents (such as Halon or Halotron)

Unsuitable extinguishing media: Do not use a solid water stream, as it may scatter and spread the fire

Specific hazards arising from the chemical: May burn if heated, but does not readily ignite.

Materials saturated with this product, such as oily rags, used oil dri, soaked insulation pads, etc., may spontaneously combust due to product decomposition in the presence of oxygen. Place all such materials into appropriate oily waste containers (such as metal cans with metal lids or oily waste dumpsters with lids), and dispose of according to local, state, and federal regulations.

Hazardous combustion products include: Carbon monoxide, carbon dioxide, nitrogen oxides, and hydrocarbons

Protective equipment and precautions for firefighters: Incipient stage fires may be controlled with a portable fire extinguisher. For fires beyond the incipient stage, evacuate all unnecessary personnel. Emergency responders in the immediate area...
should wear standard firefighting protective equipment, including self-contained breathing apparatus (SCBA) and full bunker gear. In case of external fires in proximity to storage containers, use water spray to keep containers cool, if it can be done safely. Prevent runoff from entering streams, sewers, storm drains, or drinking water supply.

**Section 6 – Accidental Release Measures**

**Personal precautions, protective equipment, and emergency procedures**

Keep all sources of ignition away from spill. Wear protective garments, impervious oil resistant boots, protective chemical-resistant gloves, and safety glasses. If product has been heated, wear appropriate thermal and chemical protective equipment. If splash is a risk, wear splash resistant goggles and face shield. Shut off source of spill, if safe to do so. Contain spill to the smallest area possible. Isolate immediate hazard area and remove all nonessential personnel. Prevent spilled product from entering streams, sewers, storm drains, unauthorized treatment drainage systems, and natural waterways. Place dikes far ahead of the spill for later recovery and disposal. Immediate cleanup of any spill is recommended. If material spills into or upon any navigable waters and causes a film or sheen on the surface of the water, immediately notify the National Response Center at 1-800-424-8802.

**Methods for containment and clean-up**

**Small spill / incidental release**

Small spills can be cleaned up with a properly rated vacuum system, absorbent inert media (oil dri, sand, or earth), or absorbent pads. Use soapy water or degreaser to remove oily residue from the affected area, then rinse area with water. Place saturated materials in an appropriate oily waste container (metal can with a metal lid or an enclosed oily waste dumpster), and dispose of according to local, state, and federal regulations.

**Large spill / release**

A spill remediation contractor with oil booms and skimmers may be needed for larger spills or spills that come into contact with a waterway or sensitive wetland. Recover as much product as possible by pumping it into totes or similar intermediate containers. Remove any remaining product with a properly rated vacuum system, absorbent inert media (oil dri, sand, or earth), or absorbent pads. Use soapy water or degreaser to remove oily residue from the affected area, then rinse area with water. Place saturated materials in an appropriate oily waste container (metal can with a metal lid or an enclosed oily waste dumpster), and dispose of according to local, state, and federal regulations.

**Other information**

Materials saturated with this product, such as oily rags, used oil dri, soaked insulation pads, etc., may spontaneously combust due to product decomposition in the presence of oxygen. Place all such materials into appropriate oily waste containers (such as metal cans with metal lids or oily waste dumpsters with lids), and dispose of according to local, state, and federal regulations.

**Section 7 – Handling and Storage**

**Precautions for safe handling**

When transferring product, use pipes, hoses, and tanks that are electrically bonded and grounded to prevent the accumulation of static electricity.

**Conditions for safe storage, including incompatibilities**

Keep away from strong oxidizing agents, strong reducing agents, strong acids, and strong bases. Store the product in a cool dry place, in a tightly closed container. Storage tanks should have an appropriate ventilation and pressure relief system.
Section 8 – Exposure Controls / Personal Protection

Precautions for safe handling
When transferring product, use pipes, hoses, and tanks that are electrically bonded and grounded to prevent the accumulation of static electricity.

Component exposure limits
At this time, the constituents have no known exposure limits.

Appropriate engineering controls
Keep product enclosed in primary containment (hoses, pipes, tanks, etc.) to avoid contact with skin. Handle in accordance with good industrial hygiene and safety practices.

Individual Protection Measures

Personal protective equipment

Eyes / face
Wear safety glasses. If splash potential exists, use splash resistant goggles and a face shield.

Skin
Wear disposable nitrile or other similar chemical-resistant gloves for incidental contact. For more substantial contact, wear thicker nitrile or other similar chemical-resistant gloves. Wear protective garments, such as a chemical apron, chemical resistant coveralls, or chemical resistant coat and pants, along with impervious oil-resistant boots. Remove soaked protective equipment, decontaminate with soapy water, and rinse thoroughly before reuse. Note: product will cause natural rubbers to degrade at a very rapid rate. Such protective equipment will need to be carefully inspected after decontamination to see if it is still in serviceable condition. Any defective or worn out equipment should be immediately discarded.

Respiratory
No exposure limits are available, but appropriate organic vapor or supplied air respiratory protection may be worn if irritation or discomfort is experienced. Respiratory protection must be provided and used in accordance with all local, state, and federal regulations.

Section 9 – Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Appearance - Physical State:</th>
<th>Liquid</th>
<th>Appearance - Color:</th>
<th>Water white to pale yellow to brown if undyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor:</td>
<td>Mild oily or animal fat odor</td>
<td>Odor Threshold:</td>
<td>No information available</td>
</tr>
<tr>
<td>pH:</td>
<td>Not applicable</td>
<td>Melting/Freezing Point:</td>
<td>-1°C to 20°C / 30°F to 68°F</td>
</tr>
<tr>
<td>Boiling Point/Range:</td>
<td>&gt;280°C / 536°F (at 1 atm)</td>
<td>Flash Point:</td>
<td>&gt;93°C / &gt;200°F (ASTM D93)</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>No information available</td>
<td>Flammability (solid/gas):</td>
<td>No information available</td>
</tr>
<tr>
<td>LFL:</td>
<td>No information available</td>
<td>UFL:</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>No information available</td>
<td>Vapor Density:</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative Density:</td>
<td>0.87-0.89 @ 25°C</td>
<td>VOC:</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility (H₂O):</td>
<td>Negligible</td>
<td>Solubility (other):</td>
<td>No information available</td>
</tr>
<tr>
<td>Auto Ignition Temp.:</td>
<td>No information available</td>
<td>Decomposition Temp.:</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity @ 40°C:</td>
<td>3.8-5.0 cSt</td>
<td>Partition coefficient (n-octanol/water):</td>
<td>No information available</td>
</tr>
</tbody>
</table>
Section 10 – Stability and Reactivity

Reactivity When handled and stored appropriately, no dangerous reactions are known

Chemical stability Stable in closed containers at room temperature under normal storage and handling conditions

Possibility of hazardous reactions When handled and stored appropriately, no dangerous reactions are known

See Sections 5 and 6 regarding spontaneous combustion of product-saturated absorbent materials.

Conditions to avoid Ignition sources, accumulation of static electricity, heating product to its flash point, or allowing the product to cool below its melting point (otherwise it may solidify and not be transferable until it is reheated).

Incompatible materials Keep away from strong oxidizing agents, strong reducing agents, strong acids, and strong bases.

Hazardous decomposition products Carbon oxides, hydrogen sulfide, nitrogen oxides, and hydrocarbons

Section 11 – Toxicological Information

Likely routes of exposure Absorption, ingestion, and inhalation

Symptoms

Inhalation Coughing or irritation

Ingestion Nausea, vomiting, or feeling unwell

Skin contact Redness or irritation

Eye contact Redness or irritation and tearing

Acute toxicity

Oral LD50 >17,500mg/kg (rat) estimated

Dermal LC50 >2000mg/kg (rat)

Inhalation No information available

Skin corrosion / irritation (rat) after 24 hr exposure, some irritation which subsided within 12 – 14 days (human) after 24 hr exposure, some minor irritation (less than that of a 4% soap & water solution)

Serious eye damage / eye irritation Industrial experience has shown that product in the eyes can cause redness and irritation which subsides within 7 days.

Sensitization (Respiratory or Skin) No information available

Germ cell mutagenicity No information available

Carcinogenicity Not listed as a carcinogen by IARC, NTP, or OSHA

Component carcinogenicity No information available
Safety Data Sheet (SDS)

Reproductive / developmental toxicity

No information available

Specific target organ toxicity

Single exposure

No information available

Repeated exposure

No information available

Aspiration hazard

No information available

Section 12 – Ecological Information

Acute ecotoxicity - short-term exposure

Fish

48hr LC50 (rainbow trout) 2.8-4.6 ug/L
96hr LC50 (bluegill) >1000mg/L

Invertebrates

LC-50 (Daphnia Manga) 23 ppm

Long Term Exposure (Fish & algae)

NOEL >100mg/L (fish, invertebrate, and algae)

Persistence and degradability

Product is biodegradable in aerobic conditions (90% biodegraded within 23 days)

Bioaccumulative potential

Accumulation in organisms is not to be expected

Mobility in soil

No information available

Other adverse effects

See section 5 & 6 regarding spontaneous combustion of materials that are soaked in this product

Section 13 – Disposal Considerations

Disposal (waste / unwanted product)

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate local, state, regional, or federal regulations for additional requirements.

Disposal (containers with residue)

Dispose of all containers with residue according to local, state, regional, and federal regulations.
Section 14 – Transport Information

DOT

<table>
<thead>
<tr>
<th>ID Number</th>
<th>Not Regulated as a hazardous material</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Proper Shipping Name</td>
<td>Not Regulated as a hazardous material</td>
</tr>
<tr>
<td>Transport Hazard Class(es)</td>
<td>Not Regulated as a hazardous material</td>
</tr>
<tr>
<td>Packing Group</td>
<td>Not Regulated as a hazardous material</td>
</tr>
<tr>
<td>Placard</td>
<td>Not Regulated as a hazardous material</td>
</tr>
<tr>
<td>Marine Pollutant</td>
<td>No</td>
</tr>
<tr>
<td>Transport in Bulk Requirements</td>
<td>Not Regulated as a hazardous material</td>
</tr>
<tr>
<td>Special Transportation Precautions</td>
<td>Not Regulated as a hazardous material</td>
</tr>
<tr>
<td>Special Note</td>
<td>Not Regulated as a hazardous material</td>
</tr>
</tbody>
</table>

Shipping Label None

Placard None

(Shipment by truck or rail in bulk)

Section 15 – Regulatory Information

Inventory Listings

<table>
<thead>
<tr>
<th>DSL</th>
<th>☒ Listed ☐ Exempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>☒ Listed ☐ Exempt</td>
</tr>
</tbody>
</table>

U.S. Federal Regulations

CERCLA: This material, as supplied, contains the following chemical(s) regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

None

Clean Water Act: This product contains the following chemical(s) regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

None

SARA 311/312 Hazard Categories:

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Hazard Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irritation</td>
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<tr>
<td>Eye Irritation</td>
<td>Category 2B (mildly irritating)</td>
</tr>
</tbody>
</table>

SARA 313: Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains the following chemical(s) subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

None
U.S. State Regulations

California Proposition 65:
☒ This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations:

No State Listed

Section 16 – Other Information

Issuing Date: Aug 28, 2007
Revision Date: September 23, 2019
Version #: 20190923

Revision Note: Updated SDS sections 1, 2, 4, 8, 9, 11, 14, 15 and 16. Reordered information to match 1910.1200 Appendix C, removed redundant information and punctuation, and added tables and statements to be consistent with all REG SDS.

WARNING: POTENTIALLY HAZARDOUS MATERIAL. IMPROPER USE OR MISHANDLING CAN RESULT IN SERIOUS INJURY OR DEATH. THIS PRODUCT CONTAINS SUBSTANCES WHICH, IF MODIFIED, MAY BE FLAMMABLE AND MAY BURN OR EXPLODE IF HEATED OR EXPOSED TO FLAME OR OTHER IGNITION SOURCE OR WATER, OXIDIZING AGENTS, ACIDS OR OTHER CHEMICALS. AVOID INGESTION, INHALATION AND CONTACT WITH SKIN AND EYES.

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS