

Section 1 – Chemical Product and Company Identification

Product identifier: REG Bio-Residual Oil

Other means of identification

Synonyms: Heavy Esters, bioester, Methyl Ester distillation residue, pitch, biodiesel bottoms, industrial fuel, BioResidual Oil

Recommended use: Industrial feedstock / blendstock

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: +1 703-741-5970 / 1-800-424-9300

Section 2 – Hazard(s) Identification

Classification (in accordance with 29 CFR 1910.1200)

Hazard Class	Hazard Category	Route of Exposure
Skin Irritation	Category 2 (irritation)	Absorption
Eye Irritation	Category 2B (mildly irritating)	Absorption

Signal word: Warning

Pictograms:



Hazard Statements: H315 Causes skin irritation
H320 Causes eye irritation

Hazards not otherwise specified: None identified

Ingredient(s) with unknown acute toxicity (if ≥ 1%): This product is not classified based on testing of the mixture as a whole.
Up to 100% of this mixture contains ingredients of unknown acute toxicity.

Precautionary statements

Prevention: Wear appropriate protective gloves, protective garments, and eye protection. Avoid breathing mists and sprays.

Response: If on skin, wash thoroughly with soap and water.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs, get medical advice.

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

Storage: Store in cool tightly closed container

Disposal: Dispose of contents/container in accordance with local, state, and federal regulations.

Section 3 – Composition / Information on Ingredients

Note: This SDS represents a product with batch-to-batch variability and/or a group of substantially similar mixtures

Chemical Name	Common Name & Synonyms	CAS number	% of product
C5-C20 Methyl Esters (mixture general)	Methyl esters, biodiesel	94733-11-6	20 – 85%
Glycerides, C14-C22 & C16-C22 unsaturated	Glycerides	68424-59-9	20 – 50%
Various unsaponified compounds from vegetable oils and animal fats	Not applicable	NA	10 – 40%
Fat / Oil feedstock (mixed)	Fat / Oil feedstock (mixed)	129828-20-2	10 – 20%

Section 4 – First Aid Measures

First aid measures for exposure

Inhalation: Move to fresh air

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.

Skin: Wash affected skin with soap and water.

Ingestion: Take off contaminated clothing and wash it before reuse.

Most important symptoms / effects

Acute: May cause eye and skin irritation.

Delayed / Chronic: No information available

Indication of immediate medical attention and special treatment needed, if necessary: No special treatment identified. Treat symptomatically and supportively.

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:	Store the product in a cool dry place, in a tightly closed container. When transferring product, use pipes, hoses, and tanks that are electrically bonded and grounded to prevent the accumulation of static electricity. Storage tanks should have an appropriate ventilation and pressure relief system.
Conditions for safe storage, including incompatibilities:	Keep away from strong oxidizing agents, strong reducing agents, strong acids, and strong bases.

Section 8 – Exposure Controls / Personal Protection

Precautions for safe handling

Component exposure limits: There were no OSHA PELs or ACGIH TLVs for this product.

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.

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

Physical State:	Liquid	Color:	Viscous, brown
Odor:	Mild fatty odor	Odor Threshold:	<i>No Information Available</i>
pH:	6 – 8 pH (varies by batch)	Melting/Freezing Point:	<110 °F
Boiling Point/Range:	<i>No Information Available</i>	Flash Point:	>130 °C (>266 °F)
Evaporation Rate:	<i>No Information Available</i>	Flammability (solid/liq):	<i>No Information Available</i>
LFL:	<i>No Information Available</i>	UFL:	<i>No Information Available</i>
Vapor Pressure:	Reid Vapor Pressure = 0 @ 98 °F	Vapor Density:	<i>No Information Available</i>
Relative Density:	0.88 – 0.93 g/mL @ 60 °C	VOC:	<i>No Information Available</i>
Solubility (H2O):	<i>No Information Available</i>	Solubility (other):	<i>No Information Available</i>
Auto Ignition Temp.:	<i>No Information Available</i>	Decomposition Temp.:	<i>No Information Available</i>
Viscosity:	4 – 100 cSt @ 60 °C	Partition coefficient (n-octanol/water) :	<i>No Information Available</i>

Section 10 – Chemical Stability and Reactivity Information

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

Eye contact: Redness or irritation and tearing

Skin contact: Redness or irritation

Ingestion: Nausea, vomiting, or feeling unwell

Acute toxicity

Oral: No information available

Dermal: No information available

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: This product is not listed as a carcinogen by NTP, IARC, or OSHA.

Component carcinogenicity: Not applicable

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

Algae: No information available

Acute ecotoxicity - long-term exposure 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 was available

Other adverse effects: No information was available

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

UN number: Not Regulated as a hazardous material

UN proper shipping name: Not Regulated as a hazardous material

Transport hazard class: Not Regulated as a hazardous material

Packing group: Not Regulated as a hazardous material

Marine pollutant: Yes No

Transport in bulk requirements: Not Regulated as a hazardous material

Special transportation precautions: Not Regulated as a hazardous material



Safety Data Sheet (SDS)

ID: SDS 105-US

Section 15 – Regulatory Information

Inventory Listings

TSCA Listed Exempt
 DSL Listed Exempt

U.S. Federal Regulations

SARA 313: Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories:

Acute Health Hazard Yes No
 Chronic Health Hazard Yes No
 Fire Hazard Yes No
 Sudden Release of Pressure Hazard Yes No
 Reactive Hazard Yes No

Clean Water Act: This product does not contain any chemicals regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA: This material, as supplied, does not contain any chemicals 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.

U.S. State Regulations

California Proposition 65:

This product does not contain any Proposition 65 chemicals.

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

<i>Component</i>	<i>State</i>
Oleic Acid	Pennsylvania, Rhode Island

Section 16 – Other Information

Hazard Statements:

H315 Causes skin irritation
 H320 Causes eye irritation

Issuing Date: Jun 04, 2013

Revision Date: Jul 18, 2018



Safety Data Sheet (SDS)

ID: SDS 105-US

Version #: 20180718

Revision Note: Changed product identifier, added a synonym, and updated melting/freezing point.

WARNING: POTENTIALLY HAZARDOUS MATERIAL. IMPROPER USE OR MISHANDLING CAN RESULT IN SERIOUS INJURY OR DEATH. THIS PRODUCT CONTAINS SUBSTANCES WHICH, IF MODIFIED, MAY BE FLAMABLE 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