


Section 1 – 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	Call ChemTel LLC for emergency service 24 hours a day (800) 255-3924 (North America) +1 (813) 248-0585 (International)

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
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.
Hazards not otherwise specified	None identified.

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
Fatty acids, C14-18 and C16-18-unsatd., Me esters	Methyl esters, FAME	67762-26-9	20 – 75%
Fats and glyceride oils, vegetable	Glycerides	68956-68-3	20 – 60%
Various unsaponifiable compounds from vegetable oils and animal fats	Not applicable	NA	10 – 50%

Section 4 – First-Aid Measures

First-aid measures for exposure

Inhalation	Move to fresh air.
Skin	Wash affected skin with soap and water.
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	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 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**

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**

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

Appearance - Physical State:	Liquid	Appearance - Color:	Viscous, brown
Odor:	Mild fatty odor	Odor Threshold:	No information available
pH:	6 – 8 pH (varies by batch)	Melting/Freezing Point:	<110 °F
Boiling Point/Range:	No information available	Flash Point:	>130 °C (>266 °F)
Evaporation Rate:	No information available	Flammability (solid/gas):	No information available
LFL:	No information available	UFL:	No information available
Vapor Pressure:	Reid Vapor Pressure = 0 @ 98 °F	Vapor Density:	No information available
Relative Density:	0.86 – 0.95 g/mL @ 60 °C	Volatile Organic Compounds:	No information available
Solubility (H₂O):	No information available	Solubility (other):	No information available
Auto Ignition Temp.:	No information available	Decomposition Temp.:	No information available
Viscosity:	4 – 100 cSt @ 60 °C	Partition coefficient (n-octanol/water):	No information available

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	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 (<i>Respiratory or Skin</i>)	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	EC50 48hr (Zebrafish) 100,000 mg/L
Invertebrates	EC50 (Daphnia Manga) 2,504 mg/L
Algae	EC50 48hr (freshwater algae) 73,729 mg/L
Acute ecotoxicity - long-term exposure	No information available.
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

DOT

ID 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
Placard	Not Regulated as a hazardous material
Marine Pollutant	No
Transport in Bulk Requirements	Not Regulated as a hazardous material
Special Transportation Provisions	Not Regulated as a hazardous material
Special Note	Not Regulated as a hazardous material
Shipping Label	None
Placard (Shipment by truck or rail in bulk)	None

Section 15 – Regulatory Information

Inventory Listings

DSL Listed Exempt
 TSCA Listed Exempt

U.S. Federal Regulations

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.

Clean Water Act: This product does not contain any chemicals regulated as toxic pollutants pursuant to the Clean Water Act (40 CFR 401.15) when used as recommended.

SARA 311/312 Hazard Categories

Hazard Class
Skin Irritation
Eye Irritation
<input type="checkbox"/> Hazard Not Otherwise Classified (HNOC) – see Section 2 for more information

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.

U.S. State Regulations**California Proposition 65:**

This product does not contain any Proposition 65 chemicals.

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

Component	State
Oleic Acid	Pennsylvania, Rhode Island

International Regulations**European Union Regulations**

European Chemicals Agency (ECHA)

Fatty acids, C14-18 and C16-18-unsatd., Me esters

EC | 267-007-0

REACH | 01-2119471662-36-0039

Tonnage Band | over 1 000 000 tonnes/year

Section 16 – Other Information

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Revision Notes: Updated REG logo

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