

# Safety Data Sheet



## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### REG Bio-Residual Oil

**Product Use:** Chemical Feedstock, Blendstock

**Synonyms:** Biodiesel bottoms; Bioester; BioResidual Oil; Heavy Esters; Industrial fuel; Methyl ester distillation residue; Pitch; SDS 105

**Company Identification**

REG Marketing & Logistics Group, LLC  
416 South Bell Avenue  
Ames, IA 50010  
United States of America

**Transportation Emergency Response**

CHEMTREC: (800) 424-9300 or (703) 527-3887

**Health Emergency**

Chevron Emergency & Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

**Product Information**

Product Information: Phone: 1 888.734.8686 / Email: REG-SDSDistribution@chevron.com

## SECTION 2 HAZARDS IDENTIFICATION

**CLASSIFICATION:**

Not classified as hazardous according to 29 CFR 1910.1200 (2012).

**HAZARDS NOT OTHERWISE CLASSIFIED:** Not Applicable

## SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Fatty acids, C14-18 and C16-18-unsatd., Methyl esters	67762-26-9	20 - 75 %weight
Fats and glyceridic oils, vegetable	68956-68-3	20 - 60 %weight

## SECTION 4 FIRST AID MEASURES

**Description of first aid measures**

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort

occurs.

### **Most important symptoms and effects, both acute and delayed**

#### **IMMEDIATE HEALTH EFFECTS**

**Eye:** Contact with the eyes may cause irritation. Not expected to cause prolonged or significant eye irritation.

**Skin:** Repeated contact with the skin may cause irritation. Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

**Ingestion:** Not expected to be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. If this material is heated, fumes may be unpleasant and produce nausea and irritation of the eye and upper respiratory tract.

**DELAYED OR OTHER HEALTH EFFECTS:** Not classified

**Indication of any immediate medical attention and special treatment needed** Not Applicable

#### **SECTION 5 FIRE FIGHTING MEASURES**

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

#### **PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Nitrogen Oxides, Hydrocarbons.

#### **SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

#### **SECTION 7 HANDLING AND STORAGE**

**Unusual Handling Hazards:** Slow heat generation may occur with oil-soaked rags, spent filter aids and spent absorbent material and may cause spontaneous combustion if stored near combustibles and not handled properly. Store biodiesel soaked rags, filter aids, and spill absorbent material in approved safety disposal containers and dispose of properly. Biodiesel soaked rags may be washed with soap and water and allowed to dry in well ventilated area.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling,

tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, refer to PPE information below.

Factors that affect PPE include, but are not limited to: properties of the chemical, other chemicals which may contact the same PPE, physical requirements (fit & sizing, cut/puncture protection, dexterity, thermal protection, etc.), and potential allergic reactions to the PPE material. It is the responsibility of the user to read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

### ENGINEERING CONTROLS:

Use in a well-ventilated area.

### PERSONAL PROTECTIVE EQUIPMENT

**Eye/Face Protection:** Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.

**Skin Protection:** Wear chemical personal protective equipment (PPE) to prevent skin contact. Selection of chemical protective clothing should be performed by an Occupational Hygienist or Safety Professional and be based upon applicable standards (ASTM F739 or EN 374). Using chemical PPE depends upon operations conducted and may include chemical gloves, boots, chemical apron, chemical suit, and complete facial protection. Refer to PPE manufacturers to obtain breakthrough time information to determine how long PPE can be used before it needs to be replaced. Unless specific glove manufacturer data indicates otherwise, the below table is based upon available industry data to assist in the glove selection process and is intended to be used as reference only.

Chemical Glove Material	Thickness (mm)	Typical Breakthrough Time (minutes)
Butyl	0.5	15
Neoprene	0.9	30
Nitrile	0.56	240
Viton Butyl	0.3	120

Polyvinyl Chloride (PVC)	<b>Not recommended for use</b>
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**Respiratory Protection:** No respiratory protection is normally required.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

### Occupational Exposure Limits:

Component	Agency	Form	TWA	STEL	Ceiling	Notation
Fats and glyceridic oils, vegetable	ACGIH	Inhalable particles	10 mg/m <sup>3</sup>	--	--	--
Fats and glyceridic oils, vegetable	ACGIH	Respirable particles	3 mg/m <sup>3</sup>	--	--	--
Fats and glyceridic oils, vegetable	OSHA Z-1	Respirable fraction	5 mg/m <sup>3</sup>	--	--	--
Fats and glyceridic oils, vegetable	OSHA Z-1	Total dust	15 mg/m <sup>3</sup>	--	--	--

Consult local authorities for appropriate values.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Attention: the data below are typical values and do not constitute a specification.**

**Color:** Brown

**Physical State:** Liquid

**Odor:** Mild oily or animal fat odor

**Odor Threshold:** No data available

**pH:** 6 - 8

**Vapor Pressure:** No data available

**Relative Vapor Density:** No data available

**Initial Boiling Point:** No data available

**Solubility:** Negligible

**Freezing Point:** >43.3°C (110°F)

**Melting Point:** No data available

**Particle Characteristics:** Not applicable

**Density:** No data available

**Kinematic Viscosity:** 4 cSt - 100 cSt @ 60°C (140°F)

**Coefficient of Therm. Expansion / °F:** No data available

**Evaporation Rate:** No data available

**Decomposition temperature:** No data available

**Partition coefficient n-octanol/water (logarithmic value):** No data available

### FLAMMABLE PROPERTIES:

**Flammability (solid, gas):** No Data Available

**Flashpoint:** 130 °C (266 °F)

**Autoignition:** No data available

**Flammability (Explosive) Limits (% by volume in air):** Lower: No data available Upper: No data available

## SECTION 10 STABILITY AND REACTIVITY

**Reactivity:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Conditions to Avoid:** Avoid contact with heat, sparks, fire and oxidizing agents Avoid contact with mineral acid/alkali.

**Incompatibility With Other Materials:** Not applicable

**Hazardous Decomposition Products:** None known (None expected)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

**Serious Eye Damage/Irritation:** The material is not considered an eye irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Skin Corrosion/Irritation:** The material is not considered a skin irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** The material is not considered a skin sensitizer. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Acute Dermal Toxicity:** The material is not considered a dermal toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** The material is not considered an oral toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The material is not considered an inhalation toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Acute Toxicity Estimate:** Not Determined

**Germ Cell Mutagenicity:** The material is not considered a mutagen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Carcinogenicity:** The material is not considered a carcinogen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Reproductive Toxicity:** The material is not considered a reproductive toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Specific Target Organ Toxicity - Single Exposure:** The material is not considered a target organ toxicant (single exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Specific Target Organ Toxicity - Repeated Exposure:** The material is not considered a target organ toxicant (repeated exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

**Aspiration Hazard:** The material is not considered an aspiration hazard.

## SECTION 12 ECOLOGICAL INFORMATION

### ECOTOXICITY

This material is not expected to be harmful to aquatic organisms.

48 hour(s) EC50: 100000 mg/l (Unidentified species)

48 hour(s) EC50: 73729 mg/l (Unidentified species)

### MOBILITY

No data available.

### PERSISTENCE AND DEGRADABILITY

This material is expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

### POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Partition coefficient n-octanol/water (logarithmic value): No data available

### SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

### SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**DOT Shipping Description:** NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR

**IMO/IMDG Shipping Description:** NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:**  
Not applicable

### SECTION 15 REGULATORY INFORMATION

**EPCRA 311/312 CATEGORIES:** Not applicable

#### REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	05=MA RTK
01-2A=IARC Group 2A	06=NJ RTK
01-2B=IARC Group 2B	07=PA RTK
02=NTP Carcinogen	08-1=TSCA 5(e)
03=EPCRA 313	08-2=TSCA 12(b)
04=CA Proposition 65	

The following components of this material are found on the regulatory lists indicated.

Fats and glyceridic oils, vegetable 05, 07

#### CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AIIC (Australia), DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ELINCS(European Union).

### SECTION 16 OTHER INFORMATION

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

**HMIS RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**REVISION STATEMENT:** This is a new Safety Data Sheet. No revision information

**Revision Date:** July 20, 2023

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Technical Center, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

**The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.**