



Revision date: 31 October 2018  
Version 2.2

Print date: 31 October 2018

## SAFETY DATA SHEET

This SDS is not required by Article 31 of REACH Regulation (EC) No. 1907/2006 as the relevant substance is not classified as hazardous (classification determined according to Regulation (EC) No. 1907/2006). However, to comply with Article 32 of REACH, and provide customers with relevant information, the format of the SDS according to Regulation (EU) No. 453/2010 (amending Regulation (EC) No. 1907/2006) has been used.

### Bio Heating Oil

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## 1 IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

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- 1.1 Product identifier:** Bio Heating Oil  
Substance Name: Fatty acids, C6-24 and C6-24-unsatd., methyl esters, distn. Residues.  
EINECS Number: 310-083-8  
CAS Number: 102242-52-4  
Registration Number: A REACH Registration dossier has been submitted and was allocated ref. nr: 01-2119552408-36-0006
- 1.2 Relevant identified uses of the substance and uses advised against:** Bio heating oil
- 1.3 Details of the supplier of the safety data sheet:** Green Biofuels Ireland Ltd.  
Marshmeadows  
New Ross  
Co. Wexford  
Tel: +353 51 447628  
Fax: +353 51 440822  
E-mail: [office@gbi.ie](mailto:office@gbi.ie)
- 1.4 Emergency telephone number:** Office hours – 0035351447628 / Out of hours – 0035351426724

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## 2 HAZARDS IDENTIFICATION

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- 2.1 Classification of the substance or mixture:** This substance is not classified according to Regulation (EC) No 1272/2008.  
This substance is not classified according to Directive 67/548/EEC.
- 2.2 Label elements:** Not relevant since substance is not classified as hazardous
- 2.3 Other hazards:** Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII.  
May cause minor eye irritation.  
Vapours produced by heating, or finely misted materials may irritate

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the mucous membranes and cause dizziness and nausea.  
Thermal burns are possible on contact with material at elevated temperatures.

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### 3 COMPOSITION/INFORMATION ON INGREDIENTS

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#### 3.1 Substances:

Main Constituent:

<b>EC Name</b>	Fatty acids, C6-24 and C6-24-unsatd., Me esters, distn. residues
<b>EC Number</b>	102242-52-4
<b>CAS Name</b>	UVCB substance
<b>CAS Number</b>	310-083-8
<b>Description</b>	UVCB Substance

**3.2 Mixtures:** Not relevant as substance is not a mixture.

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### 4 FIRST AID MEASURES

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#### 4.1 Description of first aid measures:

##### INHALATION

If irritation develops, remove person from source of exposure to fresh air. If symptoms persist get medical attention.

##### SKIN

Wash exposed skin with soap and water

##### EYE

Flush with large amounts of water for 15 minutes. If irritation symptoms persist get medical attention.

##### INGESTION

Clear material from mouth, drink lots of water. If large amounts are swallowed, get medical attention.

#### 4.2 Most important symptoms and effects, both acute and delayed:

Minor eye irritation possible.

Vapours produced by heating, or finely misted materials may irritate the mucous membranes and cause dizziness and nausea.

Thermal burns are possible on contact with material at elevated temperatures.

#### 4.3 Indication of any immediate medical attention and special treatment needed:

Not relevant for this substance.

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## 5 FIRE-FIGHTING MEASURES

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- 5.1 Extinguishing media:** Appropriate extinguishing media:  
Foam, dry powder, carbonic acid
- Unsuitable extinguishing media:  
Water jet
- 5.2 Special hazards arising from the substance:** Rags or spill adsorbents soaked with any solvent can be a fire hazard. Store bio heating oil soaked rags in an approved safety container. Treat as oil fire.  
In combustion emits toxic fumes of carbon dioxide/carbon monoxide.
- 5.3 Advice for fire-fighters:** Wear full protective clothing and self-contained breathing apparatus.

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## 6 ACCIDENTAL RELEASE MEASURES

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- 6.1 Personal precautions, protective equipment and emergency procedures:** For non-emergency personnel:  
Eliminate all sources of ignition. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Turn leaking containers leak-side up to prevent the escape of liquid.
- For emergency responders:  
Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.
- 6.2 Environmental precautions:** Do not allow the product to enter drainage systems, surface and ground water.
- 6.3 Methods and materials for containment and cleaning up:**
- 6.3.1 Spill containment:  
Absorb by use of liquid binding material (sand, diatomite, acid binder, universal binder, sawdust).
- 6.3.2 Spill clean-up:  
Pick up small spills with adsorbent materials and dispose of properly to avoid spontaneous combustion. Recover large spills for salvage or disposal. Wash hard surfaces with safety solvent or detergent to remove remaining oil film. Greasy nature will result in a slippery surface.
- 6.4 Reference to other sections:** Please refer to Section 8 of this Safety Data Sheet for information on exposure controls and personal protection and Section 13 for information on disposal considerations.

## 7 HANDLING AND STORAGE

<b>7.1 Precautions for safe handling:</b>	Do not eat, drink or smoke in work areas; and remove contaminated clothing and protective equipment before entering eating areas.
<b>7.2 Conditions for safe storage, including any incompatibilities:</b>	Avoid open flames. Store in closed boxes. Store in cool, well ventilated area. Keep away from sources of ignition. Keep container tightly closed. Below normal ambient temperatures material will start to solidify. Storage life, ~2 years. Protect from frost. Store at +15°C to +25°C. Keep away from oxidizing agents, excessive heat, and ignition sources.
<b>7.3 Specific end use(s):</b>	No special measures required. No industry or sector specific guidance is available.

## 8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

<b>8.1 Control parameters:</b>	No relevant control limits
<b>8.2 Exposure Controls:</b>	<p>8.2.1 Appropriate engineering controls: No relevant engineering controls.</p> <p>8.2.2 Individual protection measures: Use chemical resistant gloves. Eye protection not needed for normal use, but use safety glasses when decanting. Please respect the general precautionary measures for the use of chemicals.</p> <p>8.2.3 Environmental exposure controls: Do not allow the product to enter drainage systems, surface and ground water.</p>

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on the basic physical and chemical properties:

<b>Appearance</b>	Brown viscous liquid at 25 °C
<b>Odour</b>	Odourless
<b>Odour threshold</b>	Not available
<b>pH</b>	Not available
<b>Melting point/freezing point</b>	13 °C The range of melting temperature goes from -60 °C to + 25 °C.
<b>Initial boiling point and boiling range</b>	ca. 254 °C at ca. 1010 mBar
<b>Flash point</b>	118.5 °C at ca. 1013 mBar
<b>Evaporation rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not flammable For the definition of flammability, REACH refers to regulation 67/548. According to this regulation flammability is not required for

	liquids if the flash point is above 60 °C. The flash point of this substance is 118.5 °C, well above the limit of 60 °C.
<b>Upper/lower flammability or explosive limits</b>	Not available
<b>Vapour pressure</b>	ca. 4.2 Pa at ca. 20 °C
<b>Vapour density</b>	Not available
<b>Relative density</b>	0.9023 g/cm <sup>3</sup> at 20 °C
<b>Solubility(ies)</b>	ca. 31 mg/l at 20 °C
<b>Partition coefficient: n-octanol/water</b>	Log Pow > 5.7 at 25 °C
<b>Auto-ignition temperature</b>	ca. 345 °C
<b>Decomposition temperature</b>	Not available
<b>Viscosity</b>	Dynamic viscosity: 37 mPa*s at 20 °C
<b>Explosive properties</b>	Not explosive. In accordance with column 2 of REACH Annex VII, the study does not need to be conducted since there are no chemical groups associated with explosive properties present in the molecule.
<b>Oxidising properties</b>	Not oxidising. In accordance with column 2 of REACH Annex VII, the study does not need to be conducted since the substance is incapable of reacting exothermically with combustible materials based on the chemical structure

**9.2 Other information:** No other information available.

## 10 STABILITY AND REACTIVITY

- 10.1 Reactivity:** This product is stable and hazardous reaction will not occur
- 10.2 Chemical stability:** Substance is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
- 10.3 Possibility of hazardous reactions:** No hazardous reactions known.
- 10.4 Conditions to avoid:** No known incompatibility or corrosion at proper use.
- 10.5 Incompatible materials:** No known incompatibility or corrosion at proper use.
- 10.6 Hazardous decomposition products:** None known at proper use.

## 11 TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects:

<i>Hazard class</i>		<i>Result</i>	<i>Test method</i>
<b>Acute toxicity</b> There are 2 mains studies related to acute toxicity	Oral	LD50 > 2000 mg/kg bw (male/female)	OECD guideline 420
	Dermal	LD50 > 2000 mg/kg bw (male/female)	OECD guideline 402
<b>Skin corrosion/irritation</b>		Not irritating.	OECD guideline 404

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		The substance was tested for primary irritation. Three of four animals had slight skin redness one hour after application. The redness disappeared completely after 24 hours.	
<b>Serious eye damage/irritation</b>		Not irritating. The substance was tested for primary eye irritation on rabbits by a single application of 0.1 g. Reaction on the cornea and iris were not observed. Conjunctival reactions were slight and disappeared 24 hours after application.	OECD guideline 405
<b>Sensitisation</b>	Respiratory sensitisation	No information	No information
	Skin sensitisation	Not sensitising Under the conditions of the study, treatment with Fatty acids C6-24 and C6-24 unsaturated methyl esters, distillation residues at concentrations up to 100 % did not achieve a stimulation index of $\geq 3$ .	OECD guideline 429
<b>Germ cell mutagenicity</b>	Reverse gene mutation assay	Negative. The substance doesn't show any mutagenicity in Ames in vitro test.	OECD guideline 471
	In vitro mammalian cell micronucleus test	Negative. Under the experimental conditions reported, the test item did not induce micronuclei by the in vitro micronucleus test in human lymphocytes.	OECD guideline 487
	Chromosome aberration assay	Methyl esters of fatty acids in chain lengths from C6 to C20 don't show chromosomal aberration on Chinese hamster bone-marrow cells up to a concentration of 5000 mg/kg.	Equivalent to OECD guideline 475
<b>Carcinogenicity</b>		No carcinogenic potential is expected, based on results of existing studies for mutagenicity, repeat dose toxicity, toxicokinetics and QSAR prediction.	No information
<b>Reproductive toxicity</b>		The tested substance revealed no effect in screening for reproduction for a dose of up to 1000 mg/kg/bw	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
<b>STOT-single exposure</b>		No information	No information
<b>STOT-repeated exposure</b>		The substance showed no treatment related effect at the tested dose.	OECD guideline 408
<b>Aspiration hazard</b>		No information	No information

**CMR properties assessment:**

An assessment of the above information leads to a conclusion that no CMR properties are expected.

**The effects of the substance via each possible route of exposure:**

See Section 2 of this Safety Data Sheet for effects of the substance.

**Potential adverse health effects and symptoms:**

See Section 2 of this Safety Data Sheet for effects of the substance.

**Information on whether delayed or immediate effects:** See Section 2 of this Safety Data Sheet for effects of the substance.

**Interactions:** None expected.

**Other information:** See Section 2 of this Safety Data Sheet for effects of the substance.

## 12 ECOLOGICAL INFORMATION

### 12.1 Toxicity:

Fish, Acute Toxicity Test (OECD Guideline 203)	Not toxic to golden orfes. Product tested in the concentration range 1 to 10000 mg product/litre. The incubation period was 48 hours under static conditions.
Daphnia sp. Acute Immobilisation Test (OECD Guideline 202)	EC50 (48 hour): > 100 mg/l NOEC ≥ 100 mg/l
Water Quality - Marine Algal Growth Inhibition Test with Skeletonema costatum and Phaeodactylum tricornutum (ISO 10253)	EC50 (24 hour): ca. 219.95 mg/l EC50 (48 hour): ca. 136.01 mg/l EC50 (72 hour): ca. 111.87 mg/l
Activated Sludge, Respiration Inhibition Test (OECD Guideline 209)	EC0 (30 min.): ca. 3000 mg/l EC10 (30 min.): ca. 10000 mg/l
Other aquatic/terrestrial toxicological end points	No information

### 12.2 Persistence and Degradability:

Readily biodegradable

### 12.3 Bioaccumulative Potential:

C6-C24 and C6-C24 Unsaturated methyl esters distillation residues are made up of more than 80 % monoglyceride, diglyceride and trygliceride. These substances are included in fish and mammalian natural diets. Thus the mixture follows the normal fat metabolism and may be accumulated in adipose tissue inside the organism when quantities exceed the natural regulation capacity metabolism. The other constituents (fatty acid methyl esters and glycerine) don't present any concern related to bioaccumulation.

### 12.4 Mobility in soil:

In accordance with column 2 of REACH annex VIII, adsorption/desorption studies do not need to be conducted if a substance is readily biodegradable.

### 12.5 Results of PBT and vPvB Assessment:

Not available

### 12.6 Other Adverse Effects:

None

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## 13 DISPOSAL CONSIDERATIONS

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**13.1 Waste treatment methods:** Disposal as per current legislation.

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## 14 TRANSPORT INFORMATION

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**14.1 UN number:** Not applicable (not classified)

**14.2 UN proper shipping name:** Not applicable (not classified)

**14.3 Transport hazard class(es):** Not applicable (not classified)

**14.4 Packing group:** Not applicable (not classified)

**14.5 Environmental hazards:** Not applicable (not classified)

**14.6 Special precautions for user:** Not applicable (not classified)

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable (not classified)

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## 15 REGULATORY INFORMATION

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**15.1 Safety, health and environmental regulations/legislation specific for the substance:** This substance is not classified according to Regulation (EC) No 1272/2008 (Classification, Labelling and Packaging Regulation (CLP)).

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out for the substance (parts 1-4 only as the substance is not classified as hazardous and is not a BPT/vPvB).

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## 16 OTHER INFORMATION

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**SDS revision information:** SDS updated to bring in line with Regulation (EU) No. 453/2010 (amending REACH Regulation (EC) No. 1907/2006).

**Abbreviations:** PBT: substance with persistent, bioaccumulative and toxic properties  
vPvB: substance with very persistent and very bioaccumulative properties



**Key references:**

Allan, J. (2010) Combined Repeated Dose Toxicity Study with the reproduction/Developmental Toxicity screening Test in Rats; Testing laboratory: Charles River; Report no.: 495325.

Banduhn (1988), Edenor ME Ruckstand II - Prufung auf Mutagenitat in Ames – Test; Testing laboratory: Henkel - Institut fur Toxicologie; Report no.: 880137

Bohnenberger, S. (2010) In vitro Micronucleus Test in Human Lymphocytes with C-SAT 10005; Testing laboratory: Harlan Cytotest Cell Research Gmbh-l (Harlan CCR); Report no.: 1341502

Gode (1988) Fatty acids, C6-24 and C6-24-unsatd., Me esters, distn. residues Fish, Acute Toxicity; Testing laboratory: Henkel KGaA; Report No.: R01000712

Grant Robertson, A. (2010) Well described GLP compliant study conducted to recognized international test guidelines; Testing laboratory: Charles River; Report No.:518216

Hudson, B. (1999) Assessment of the toxicity of Dehylub 1757, OMC 233 and Edenor ME SU to the marine alga Skeletonema costatum; Testing laboratory: Environment & Resource Technology Ltd; Report No.: 302-3

Jeassel (1998) Dehylub 1757 Respiration inhibition test activated sludge; Testing laboratory: Henkel HGaA; Report No.: 7328

Kastner (1988) Edenor ME Ruckstand II - Prufung auf primaere Hautirritation; Testing laboratory: Henkel KGaA Institut fur Toxicologie; Report No.:880145

Kastner (1988) Edenor ME Ruckstand II - Prufung der primaren Schleimhaut irritation am Kaninchenaug; Testing laboratory: Henkel KGaA Institut fur Toxicologie; Report No.: 880249

Potokar (1988) Edenor ME Ruckstand II - Prufung der akuten Toxicitat (Limit-Test) nach einmaliger oraler Applikation an Ratten; Testing laboratory: Henkel - Institute fur Toxicologie; Report No.: 880110

Potokar, M. Bartnik, F. Pitterman, W. Busch, K. (1980) Suabacete toxicity in rats after 12 weeks treatment; Testing laboratory: Institut für toxikologie; Report No.: 9500459

Renner, H.W. (1986) The anticlastogenic potential of fatty acid methyl esters; Mutation Research/Genetic Toxicology Volume 172, Issue 3, December 1986, Pages 265-269

Richterich, K. (1986) Ultimate biodegradability in the Closed Bottle Test; Testing laboratory: Laboratories of VTB Ecology; Report No.: 750

Robertson, A.G (2010) Fatty acids, C6-24 and C6-24 unsaturated, methyl esters, distillation residues: Acute Dermal Toxicity (Limit) Test in Rats; Testing laboratory: Charles River; Report No.: 518237

Wehrhahn, D. (2010) Acute Daphnia Toxicity Daphnia sp., Acute Immobilisation Test with the test substance C-SAT 100051; Testing

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laboratory: Laboratory for Toxicology and Ecology; Report No.:  
17812

**Mixture classification information:** Not relevant

**List of relevant R phrases, hazard statements, safety phrases and/or precautionary statements:** Not relevant

**Appropriate training:** Not relevant

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