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.

TALLOW

1 IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product identifier: Tallow
EINECS Number: 
CAS Number: 

1.2 Relevant identified uses of the substance and uses advised against: Sterilized Tallow produced from rendered Specified Risk Material and animal by products is mainly fat (Triglyceride) With small amount of impurities and Free Fatty acids.

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

1.4 Emergency telephone number: Office hours – 0035351447628 / Out of hours – 0035351426724

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture: According to Regulation (EC) No1272/2008.
Eye Irritation (category 2)

This substance is not classified as dangerous according to Directive 67/548/EEC.

2.2 Label elements: Cat 1, not for human consumption

2.3 Other hazards: Can cause Burn at high temperature
3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: Tallow is produced from the rendering and sterilisation of Specified Risk Material and animal by-products not fit for human consumption. This includes brains, spinal cord, thymus, tonsils, spleen, intestines; placental tissue, cell cultures of bovine origin, serum, including foetal calf serum, pancreas, adrenal glands, testicles, ovaries and hypophysis.

Main Constituent:

<table>
<thead>
<tr>
<th>EC Name</th>
<th>Tallow</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC Number</td>
<td></td>
</tr>
<tr>
<td>CAS Name</td>
<td>Tallow</td>
</tr>
<tr>
<td>CAS Number</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight Range</td>
<td></td>
</tr>
</tbody>
</table>

3.2 Mixtures: see above.

4 FIRST AID MEASURES

If Inhaled – Remove person to fresh air; If not breathing give artificial respiration.
If Skin Contact – Will cause Burn at high temperature. Wash off with soap and plenty of water. Seek medical attention if burn severe
If eye Contact – Will cause Burn at high temperature Flush eyes with copious amounts of water. Seek medical attention if burn severe
If swallowed – Do NOT induce vomiting unless directed by medical personnel, never give anything by mouth to an unconscious person. Rinse mouth with water. In case of persistent symptoms consult doctor

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media: Appropriate extinguishing media:
Use fire fighting measures that suit the environment – Dry chemical, foam, water spray, carbon dioxide.

Unsuitable extinguishing media:
Water stream may splash the burning liquid and spread fire

5.2 Advice for fire-fighters: Wear full protective clothing and self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

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 product to enter drainage systems, surface water or 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

7.1 Precautions for safe handling:
Do not eat, drink or smoke in work areas; and remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:
Avoid open flames. Store in cool, well ventilated area. Keep away from sources of ignition. Keep container tightly closed.. Keep away from oxidizing agents, excessive heat, and ignition sources.

7.3 Specific end use(s):
No special measures required. No industry or sector specific guidance is available.

8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters:
No relevant control limits

8.2 Exposure Controls:
8.2.1 Appropriate engineering controls:
No relevant engineering controls

8.2.2 Individual protection measures:
Not required if the product is used appropriately. The usual precautionary measures should be adhered to. If vapours or mists are generated, wear a NIOSH approved organic vapour/mist respirator. Safety glasses, goggles, or face shield recommended to protect eyes from mists or splashing. PVC coated gloves recommended to prevent skin contact. Employees must practice good personal hygiene, washing exposed areas of skin several times daily and laundering contaminated clothing before re-use.

8.2.3 Environmental exposure controls:
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Biodiesel degrades within 2 – 3 weeks.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on the basic physical and chemical properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark Brown solid @ 20°C, liquid @ 40°C</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Approx 40°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Approx 235°C at 27hpa</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not flammable</td>
</tr>
<tr>
<td></td>
<td>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 above 150 °C, well above the limit of 60 °C.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt;1 hpa at 50 °C</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.8960 g/cm³ at 60 °C</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble in Water</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not oxidising.</td>
</tr>
<tr>
<td></td>
<td>In accordance with column 2 of REACH Annex VII, the study does not need to be conducted since the substance is incapable of reacting exoterminically with combustible materials based on the chemical structure</td>
</tr>
</tbody>
</table>

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 Conditions to avoid: See incompatible materials.
10.5 Hazardous decomposition products: Combustion produces carbon monoxide, carbon dioxide along with thick smoke.

11 TOXICOLOGICAL INFORMATION

Acute toxicity: - no data available
Irritation and corrosion - no data available
Sensitization - no data available.
Chronic exposure - no data available.
Germ cell mutagenicity - no data available.
Carcinogenicity - No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity - no data available
Specific target organ Toxicity – single exposure - no data available.
Specific target organ Toxicity – repeated exposure - no data available.
Aspiration Hazard - no data available

Additional toxicological information:

12 ECOLOGICAL INFORMATION

12.1 Toxicity:
<table>
<thead>
<tr>
<th>LC50</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>No data available</td>
</tr>
<tr>
<td>LC50</td>
<td>No data available</td>
</tr>
</tbody>
</table>

12.2 Persistence and Degradability: No data available
12.3 Bioaccumulative Potential: No data available.
12.4 Mobility in soil: No data available.
12.5 Results of PBT and vPvB Assessment: No data available
12.6 Other Adverse Effects: No data available
13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: This product is required by EU and Irish law to be disposed of as a fuel, incineration or manufacture of biodiesel.

14 TRANSPORT INFORMATION

14.1 UN number: Not applicable (not classified)
14.2 UN proper shipping name: Not applicable (not classified)
14.3 Transport hazard class(es): This product is not classified as dangerous for transport but may only be transported by licensed and DAFRD approved hauliers
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)

15 REGULATORY INFORMATION

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)).

Produced in accordance with Council Regulation 1774/2002/EC

16 OTHER INFORMATION

List of relevant R phrases, Eye Irritation H 319
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The information provided is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability, or suitability for an intended use, or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.