



Safety Data Sheet

Southern Biofuels B20 Biotherm

Revision Date July 2019

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

Product: **B20 Biotherm**

Product Descriptions: Hydrocarbons and Biofuel Blend

Intended Uses: Vaporising pot burners, open atomising gun burners in space heaters.

Restrictions of Use: Not to be used in internal combustion engines.

COMPANY IDENTIFICATION

Supplier: **Southern Biofuels Ltd**

C/- Gerard Clark

26 Dalziel Place, Woolston, CHRISTCHURCH

NEW ZEALAND

www.southernbiofuels.co.nz

Transportation Emergency Response

New Zealand 03 380-5015 or 0800 78 78 78

Health Emergency

Poisons Centre 0800 POISON (0800 764 766)

Product Information

Email gerard@shf.co.nz

Production Information 03 380-5015

MSDS Requests 03 380-5015 or 0800 78 78 78

National Poison Control Centre +64 3 479 7227

General Contact Number +64 3 380 5015 /Freephone 0800 78 78 78

SECTION 2

PRODUCT INGREDIENTS

Ingredient:

Mineral Diesel

Biofuel

CAS Number:

68334-30-5

120962-03-01

Proportion (% w/w):

80%

20%

SECTION 3

PHYSICAL CHARACTERISTICS (TYPICAL)

Appearance: Amber liquid.

Boiling Point/Range (C°): >150

Flash Point (C°): >50

Specific Gravity/Density (@ 15 C°): 0.8

Acidity/Aalkalinity: Not applicable

Autoignition temperature (C°): 250

Chemical Stability: Stable at room temperature and pressure.

SECTION 4

HAZARDOUS STANDARD STATEMENTS

H226 Flammable liquid and vapour, H304 May be fatal if swallowed and enters airways; H316 Causes mild skin irritation; H411 Toxic to aquatic life with long lasting effects.

P210 Keep away from heat/sparks/flame. No smoking. P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment. P241 Use explosion-proof equipment.

P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge.

P273 Avoid release to environment. P280 Wear protective gloves.

Hazardous Nature:	This product is classified as hazardous under HSNO criteria
Hazard Classifications:	3.1C: Flammable liquid and vapour; 6.1E: Aspiration hazard; 6.3B: Mild skin irritant; 9.1B: Toxic to aquatic life with long lasting effects.
Exposure Standards:	TEL (Air): Not available ; TWA and STEL: Available for components but not for the mixture.
Environmental Standards:	EEL (Air): Not available

SECTION 5

HAZARDS IDENTIFICATION

This product is classified as hazardous under HSNO criteria.

HSNO Approval Number: HSR001049

Hazardous Classifications: 3.1C: Flammable liquid and vapour; 6.1E: Aspiration hazard; 6.3B: Mild skin irritant; 9.1B: Toxic to aquatic life with long lasting effects.

GHS Pictogram:



Signal word: DANGER

Hazard Statements:

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H316 Causes mild skin irritation.

H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention

P210 Keep away from heat/sparks/flame. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P273 Avoid release to environment. P280

Wear protective gloves.

Response

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor.



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P331 Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing.

Rinse skin with water.

P332 + P313 If skin irritation occurs: Get medical advice P370

+ P378 In case of fire: Stop leak if safe to do so.

P391 Collect spillage.

Storage

P403 + P235 Store in well-ventilated place. Keep cool.

P405 Store locked up.

Disposal

P501 Dispose of product and packaging in accordance with local regulations.

Dangerous Goods Classification 3

Packing Group III Hazchem

Code 3Y

SECTION 6

FIRST AID MEASURES

For advice, contact the National Poisons Centre (Phone New Zealand: 0800 78 78 78) or a doctor.

Swallowed

If swallowed, do NOT induce vomiting. Get immediate medical advice. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into lungs.

Skin Contact

Remove contaminated clothing. Wash skin with soap and water. If skin irritation occurs, get medical advice.

Launder contaminated clothing before re-use.

If product is injected into or under skin, or any other part of body, and regardless of appearance of wound, get immediate medical evaluation as immediate surgical intervention may be needed.

Eye Contact

Hold eyelids apart and flush the eye continuously with running water for 15 minutes. Remove contact lenses after 5 minutes if present, and easy to do. Continue flushing. Get immediate medical attention if irritation persists.

Inhalation

Move the person to fresh air immediately. Keep warm and at rest until recovered. Get immediate medical advice if feeling unwell (respiratory irritation, dizziness, nausea) or if unconsciousness occurs. Begin artificial respiration if breathing has stopped and get immediate medical assistance.

First Aid facilities

Provide eye baths and safety showers close to areas where splashing may occur.

Note to Doctor/Physician

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. Skin contact may aggravate existing dermatitis.

SECTION 7

FIRE FIGHTING

Flammable liquid and vapour. Shut off product that may 'fuel' a fire, if safe to do so. Clear area. Allow trained personnel to attend a fire in progress, providing fire fighters with this Safety Data Sheet. Prevent extinguishing media from escaping to drains and waterways.

Suitable extinguishing media

Water fog, foam, dry chemical or carbon dioxide (CO₂). Do NOT use straight streams of water.

Hazards from combustion products

Smoke, fume, aldehydes, sulphur oxides, carbon dioxide and carbon monoxide and other incomplete combustion products.

Precautions for fire fighters and special protective equipment

Full protective clothing and self-contained breathing apparatus. Keep adjacent containers cool by spraying with water.

Hazchem Code

3Y

SECTION 8

ACCIDENTAL RELEASE MEASURES

Emergency Procedures

Avoid contact with spilled material. Isolate and evacuate area. Warn or evacuate occupants in surrounding or downwind areas. Wear personal protective equipment. Prevent entry by unnecessary or unprotected personnel. If possible, isolate or remove sources of ignition. Prevent product from escaping to drains and waterways. Contain leaking packaging in a containment vessel. Prevent any vapours from building up in confined areas. Ensure that drain valves are closed at all times. Clean up and report spills immediately to relevant authorities.

Methods and materials for containment

Major Land Spill

- Stop leak if you can do so safely.
- Eliminate sources of ignition.
- Contain the spilled product.
- Prevent product from entering sewers, watercourses, or low-lying areas.
- Warn occupants in downwind areas of possible hazards.
- Keep the public away from the area.
- Advise authorities if substance has entered a watercourse or sewer or has contaminated soil or vegetation.
- Take measures to minimise the effect on the groundwater.
- Use clean non-sparking tools. All equipment must be grounded.
- Recover product by containing and collecting methods. For liquids: use a flame-proof pump or hand pump – or collect with suitable absorbent material, e.g. dry earth, sand or non-combustible material.
- Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
- See "First Aid Measures" and "Stability and Reactivity".

Major Water Spill

- Stop leak if you can do so safely.
- Eliminate sources of ignition.
- Warn occupants and shipping in downwind areas of possible hazards.

- Notify the port or relevant authority and keep the public away from the area.
- Confine the spill if possible.
- Remove the product from the surface by skimming or with suitable absorbent material.
- Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
- See "First Aid Measures" and "Stability and Reactivity".

Precautions for safe handling

Liquid and vapour are flammable. No smoking. Wear personal protective equipment. Avoid breathing vapours or contact with skin, eyes or clothing. Use outdoors or in well ventilated area. Wash thoroughly after handling and before rest breaks or meals. Use only for intended use.

Keep container closed when not in use. Handle containers with care. Do not open near naked flame, sources of heat or ignition. Open slowly to control possible pressure release. No splash filling. Material will accumulate static charge which may cause an electrical spark (ignition source). Use bonding and/or earthing measures to avoid discharge (electrical spark) but note this may not eliminate hazard.

Conditions for safe storage

Store locked up in a cool, dry place well ventilated place away from direct sunlight and incompatible substances. Storage and transfer containers, and associated equipment, should be earthed and bonded to prevent accumulation of static discharge. Do not pressurise, cut, heat or weld containers. This product will fuel a fire in progress.

Compatible materials

Information not available.

Incompatible materials

Information not available.

SECTION 9

EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Standards

The time-weighted average concentration (TWA) is the highest allowable exposure concentration in an eight-hour day for a five-day working week.

The short-term exposure limit (STEL) is the maximum allowable exposure concentration at any time. WorkSafe has set workplace limits (WES) for components in this product.

ExxonMobil recommendation for product:

Kerosene (stable aerosol) TWA: 5 mg/m³

Kerosene (vapour) TWA: 200 mg/m³

Kerosene (as total hydrocarbon vapour, non-aerosol) 200 mg/m³

The Toxic Exposure Limit in Air – TEL (Air): Not available

The Toxic Exposure Limit for Skin – TEL (Skin): Not available

The Toxic Exposure Limit for Drinking Water – TEL (Drinking Water): Not available

Biological Exposure Limit Values Not

set.

Engineering Controls:

Ventilation

The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be handled in a fume hood. Provide mechanical ventilation of confined spaces. Use explosion proof ventilation equipment.

Personal Protective Equipment

Respiratory Protection: Where concentrations in air may exceed the limits described in the Exposure Standards, it is recommended to use a half-face filter mask to protect from overexposure by inhalation. An organic vapour, particulate filter is considered suitable for this product. For high airborne concentrations, use an approved supplied-air respirator operated in positive pressure mode.

Eye protection: Wear safety glasses with side shields when handling this product.

Skin/ Body Protection: Wear chemical/oil resistant clothing with long sleeves and long trousers or coveralls, and enclosed footwear or safety boots. Wear chemical resistant gloves, e.g. nitrile, viton. If contact with forearms is possible then wear gauntlet type gloves.

Property	Unit of measurement	Typical value
Appearance	None	Amber liquid
Odour		Petroleum solvent
Boiling Point/ Range	°C	>150
Freezing Point	°C	<47
Flash Point	°C	>50
SG/ Density @ 15°C		0.8
Vapour Pressure @ 20°C @ 38°C @ 50°C	kPa	3 -- --
Vapour Density @ 20°C, 101 kPa	g/ml; kg/m ³	Not available
Autoignition Temperature	°C	250
Flammable Limits in Air	%	1.0 – 6.0
Viscosity @ 20°C (2 mm ² /sec)	cSt	2
Log P _{ow} (n-Octanol/Water Partition Coefficient)		>3.5
Evaporation rate	(nBuAc=1)	Not available
Alkalinity/ acidity as pH	None	Not applicable
Solubility in water	g/L	Negligible

The values listed are indicative of this product's physical and chemical properties.

SECTION 10 STABILITY AND REACTIVITY	
<u>Chemical stability</u>	Stable at room temperature and pressure.
<u>Conditions to avoid</u>	Heat, sparks, open flames and other ignition sources.
<u>Hazardous decomposition products</u>	No decomposition products except on burning. See "Fire Fighting Measures".
<u>Hazardous reactions</u>	Strong acids, alkalis, halogens, strong oxidisers.
<u>Hazardous Polymerisation</u>	Will not occur.

SECTION 11

TOXICOLOGICAL INFORMATION

Acute Effects

Ingestion

Liquid aspirated into the lungs during ingestion, or from vomiting, may cause chemical pneumonitis, or pulmonary oedema.

Eye Contact

This product may cause mild short lasting discomfort to eyes.

Skin Contact

This product is a mild irritant to skin. Prolonged or repeated exposure may result in dryness and cracking of skin.

Inhalation

May be irritating to nose, throat and lungs if inhaled. Vapours may cause drowsiness and dizziness. Breathing high vapour concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. If exposure continues then unconsciousness may result. May cause central nervous system depression.

Chronic Effects

Lifetime skin painting tests produced tumours but the mechanism is due to repeated cycles of skin damage and restorative hyperplasia. This mechanism is considered to be unlikely in humans where such prolonged skin damage would not be tolerated.

Other Health Effects Information

Pre-existing skin conditions may be aggravated by exposure to this product. May aggravate existing dermatitis.

Toxicological Information:

Not available.

SECTION 12

ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Toxicity:

Product classified as toxic in the aquatic environment with long lasting effects.

Ecotoxicity Data:

Based on similar materials -

Oncorhynchus mykiss EC₅₀ (96 hr) 1 – 100 mg/L

Daphnia magna EC₅₀ (48 hr) 1 – 100 mg/L

NOELR (21 d) 0.48 mg/L

Pseudokirchneriella subcapitata EC₅₀ (72 hr) 1 – 100 mg/L

NOELR (72 hr) 1 - 10 mg/L

Persistence/ Biodegradability: Expected to be readily biodegradable.

Oxidizes by photo-chemical reactions in air.

Majority of components have potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

Mobility: Product has low solubility and will float on water. Expected to migrate from water to land. Expected to partition to sediment and wastewater solids.

Exposure limits:

The Environmental Exposure Limit in Air – EEL (Air): Not available.

The Environmental Exposure Limit for Water – EEL (Water): Not available.



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SECTION 13**DISPOSAL CONSIDERATION****Disposal Methods**

Recover or recycle product whenever possible. Packaging may still contain product residue that may be flammable and harmful. Ensure that empty packaging is managed in accordance with Dangerous Goods and HSNO regulations.

Special Precautions

This product is not suitable for disposal by either landfill or via municipal sewers, drains, natural streams or rivers. This product is ashless and can be incinerated in a regulated facility. In the absence of a designated industrial incinerator, this product should be treated and disposed through chemical waste treatment, or considered for use in solvent recycling.

SECTION 14**TRANSPORT INFORMATION**

Road and Rail Transport		Marine Transport		Air Transport	
UN No	1223	UN No	1223	UN No	1223
Proper Shipping Name	KEROSENE	Proper Shipping Name	KEROSENE	Proper Shipping Name	KEROSENE
DG Class	3	DG Class	3	DG Class	3
Sub. Risk		Sub. Risk		Sub. Risk	
Pack Group	III	Pack Group	III	Pack Group	III
Hazchem	3Y	Hazchem	3Y	Hazchem	

Dangerous Goods Segregation

This product is classified as a Dangerous Good Class 3. Please consult the Land Transport Rule: Dangerous Goods 2005, and NZS 5433:2012 Transport of Dangerous Goods on Land for information.

SECTION 15**REGULATORY INFORMATION**

Country/ Region: New Zealand, Asia Pacific

Inventory: NZIoC; AICS

Status: Listed

HSNO Approval Number: HSR001049; Kerosene.

Hazardous Classifications: 3.1C: Flammable liquid and vapour; 6.1E: Aspiration hazard; 6.3B: Mild skin irritant; 9.1B: Toxic to aquatic life with long lasting effects.

HSNO Controls: Refer to www.epa.govt.nz for information.

SECTION 16**OTHER INFORMATION**

Date of Issue: 3rd July 2019.

Abbreviations:

AICS: Australian Inventory of Chemical Substances

CAS Number: Chemical Abstracts Number

IARC: International Agency for Research on Cancer

EPA: Environmental Protection Authority

HSNO: Hazardous Substances and New Organisms

- Supplier Safety Data Sheet
- NZ EPA Chemical Classification and Information Database (CCID)



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The information sourced for the preparation of this document was correct and complete at the time of writing to the best of the writer's knowledge. The document represents the commitment to the company's responsibilities surrounding the supply of this product, undertaken in good faith. This document should be taken as a safety guide for the product and its recommended uses, but is in no way an absolute authority. Please consult the relevant legislation and regulations governing the use and storage of this type of product.

END OF SAFETY DATA SHEET