SAFETY DATA SHEET
Green D+ Renewable
Diesel; Date 01.02.2020

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1Product identifier

1.1.1Commercial Product Name

Green D+ Renewable Diesel;

1.1.2Product code

(ID 13898)
REACH Registration Number
01-2119450077-42-0000 / -0001 / -0002
Substance nameRenewable hydrocarbons (diesel type fraction)

1.2Relevant identified uses of the substance or mixture and uses advised against

1.2.1Recommended use

Use as a fuel
Distribution of substance
Formulation & (re)packing of substances and mixtures
Use as an intermediate

See the PROC/SU/ERC codes of the identified uses in Section 16.

1.3Details of the supplier of the safety data sheet

1.3.1Supplier

	FuelBox
Street address	Goodman House, 2nd Floor, East Wing,
Postcode and post office	Station Approach, Harlow, Essex, UK
Postcode and post office	CM20 2ET
Telephone	+44 (0) 1279 425 757
Email	info@fuelbox.co.uk

1.4Emergency telephone number

1.4.1Telephone number,

FuelBox. +44 (0) 1279 425 757. Monday to Friday 8am - 5:30pm

2. HAZARDS IDENTIFICATION

2.1Classification of the substance or mixture

1272/2008 (CLP)
Asp. Tox. 1, H304
EUH066
67/548/EEC - 1999/45/EC
Xn; R65-66

2.2Label elements

1272/2008 (CLP)
GHS08
Signal wordDanger
Hazard Statements
H304May be fatal if swallowed and enters airways.
EUH066Repeated exposure may cause skin dryness or cracking.

Precautionary Statements

P301+P310IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P331Do NOT induce vomiting.

P501Dispose of contents/container according to national regulations and local authorities' advice.

2.3Other hazards

Combustible liquid. Oil mist may irritate the eyes and the respiratory tract. Risk of soil and ground water contamination.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1Substances

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CAS number	Chemical name of the substance	Concentration	Classification
-	Renewable hydrocarbons (diesel type fraction)	Ca. 100 %	CLP: Asp. Tox. 1, H304 DSD-DPD: Xn; R65, R66

3.3Other information

Preparation of renewable raw material diesel and additives. Contains middle distillate-range iso- and n-paraffinic hydrocarbons. Total aromatics at maximum 1,0 Weight %.

Identity outside the EU (CAS number and name of the substance): Alkanes, C10-20 -branched and linear, CAS 928771-01-1. Registration number, See chapter 1.1.2.

4. FIRST AID MEASURES

4.1Description of first aid measures

4.1.2Inhalation

Inhalation is unlikely because of the low vapour pressure of the substance at ambient temperature. If breathed in, move person into fresh air. Consult a physician.

4.1.3Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

4.1.4Eye contact

Rinse immediately with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.

4.1.5Ingestion

DO NOT INDUCE VOMITING. In case of ingestion, always assume that aspiration has occurred. Consult a physician (risk of aspiration into the lungs especially if nausea or irritation occurs).

4.2Most important symptoms and effects, both acute and delayed

Aspiration into the lungs can cause fatal chemical pneumonitis. Oil mist may irritate the eyes and the respiratory tract. Prolonged or repeated contact causes drying and irritation of the skin.

4.3Indication of immediate medical attention and special treatment needed

Aspiration into the lungs can cause fatal chemical pneumonitis.

5. FIREFIGHTING MEASURES

5.1Extinguishing media

5.1.1Suitable extinguishing media

Dry powder, carbon dioxide. Sand. Heavy foam and water fog for professional fire-fighters.

5.1.2Extinguishing media which must not be used for safety reasons

Water jet

5.2Special hazards arising from the substance or mixture

Combustible liquid. Explosion risk due to pressure increase if product containers or tanks are subjected to fire. Strong heating or fire can produce carbon monoxide and other products resulting from uncomplete combustion.

5.3Advice for firefighters

Cool product containers and tanks near the fire with water spray from a sufficiently safe distance.

5.4Specific methods

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

6.1Personal precautions, protective equipment and emergency procedures

Eliminate fire risk by keeping ignition sources out of the area. Evacuate people upwind from the spill area.Wear adequate protective equipment at all operations.

6.2Environmental precautions

Try to restrict the release and prevent spread of the product into the environment. Collect liquid before it spreads into drains, the ground and waters. In case of spill, immediately contact local authorities. Risk of soil and ground water contamination.

6.3Methods and materials for containment and cleaning up

Immediately start clean-up of the liquid and contaminated soil. Small amounts can be collected using absorbent material. Pay attention to the fire and health hazards caused by the product.

6.4Reference to other sections

For personal protection see section 8. Product waste should be disposed in accordance with section 13.

7. HANDLING AND STORAGE

7.1Precautions for safe handling

Handle the product in closed systems or provide sufficient ventilation. Avoid skin contact and inhalation of oil mist. Wear protective equipment when needed. When using, do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Spillages make surfaces slippery. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

Keep away from fire, sparks and heated surfaces. Take measures to prevent the build up of electrostatic charge.

7.2Conditions for safe storage, including any incompatibilities

In a tank or a store suitable for combustible liquids. Take precautionary measures to prevent product spills into drains, the ground or waters. Take precautions against leakage by constructing collecting pools and sewerage systems as well as by surfacing the loading and unloading stations. Retail batches are stored in tightly sealed, labelled containers which are impermeable to the product. Store in accordance with local regulations.

Keep in properly labelled containers. Recommended materials for containers or container linings: carbon steel, stainless steel. Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use.

7.3Specific end use(s)

None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1Control parameters

8.1.1Threshold limits

5 mg/m3 (8 h)Oil mist

HTP 2011/FIN

8.1.2Other information on limit values

The occupational exposure monitoring method: Oil mist: NIOSH Method 5026, SFS-EN 689
The individual limit values can be applied for the hydrocarbons.

8.1.4DNELs

Workers:
Dermal: 42 mg/kg bw /day (Long-term exposure, systemic effects)
Inhalation: 147 mg/m3 (Long-term exposure, systemic effects)

Consumers:
Dermal: 18 mg/kg bw /day (Long-term exposure, systemic effects)
Inhalation: 94 mg/m3 (Long-term exposure, systemic effects)

8.1.5PNECs

PNEC derivation is not scientifically justified based on water solubility limitations.

8.2Exposure controls

8.2.1Appropriate engineering controls

Handle the product in closed systems or provide sufficient ventilation.Wear protective equipment when needed. Handle in accordance with good industrial hygiene and safety practice.

8.2.2Individual protection measures

8.2.2.1Respiratory protection

Oil mist: respirator (combined particle and organic vapour filter, type A2/P2). Filter device could be used maximum 2 hours at a time. Filter devices must not be used in conditions where the oxygen level is low (< 17 vol.-%). At high concentrations a breathing apparatus must be used (self-contained or fresh air hose breathing apparatus). Filter must be changed often enough. Respirators according to standards EN 140 and EN 141.

8.2.2.2Hand protection

Protective gloves (e.g. of nitrile, neoprene, PVC). Breakthrough time >240, Protection class 5. Protective gloves according to standards EN 420 and EN 374. Change protective gloves regularly.

8.2.2.3Eye/face protection

Tightly fitting safety goggles.

8.2.2.4Skin protection

Protective clothing (antistatic), splash-proof chemical protective clothing when needed.

8.2.3Environmental exposure controls

Take precautions against leakage by constructing collecting pools and sewerage systems as well as by surfacing the loading and unloading stations.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1Information on basic physical and chemical properties

9.1.1Appearance

Clear liquid with low viscosity.

9.1.2OdourA mild characteristic odour.

9.1.3Odour thresholdno data available

9.1.4pHno data available

9.1.5Melting point/freezing pointMelting point / Pour point < -20°C @ 1013 hPa (BS4633, Method EC A1)

9.1.6Initial boiling point and boiling range180 - 320°C (EN ISO 3405)

9.1.7Flash point> 61 °C @ 1013 hPa (EN ISO 2719, Method EC A9)

9.1.8Evaporation rateno data available

9.1.10Explosive properties
9.1.10.1 Lower explosion limitno data available
9.1.10.2 Upper explosion limitno data available
9.1.11Vapour pressure0,087 kPa @ 25°C (Method EC A4)
9.1.12Vapour densityno data available
9.1.13Relative density0,77 - 0,79 (15/20 °C; water= 1, EN ISO 12185, Method EC A3)
9.1.14Solubility(ies)
9.1.14.1 Water solubilityInsoluble. (estimate: 0,075 mg/L @ 25 °C; (calculated))
9.1.14.2 Fat solubility (solvent /oil to be specified)Soluble (Methanol, hexane)
9.1.15Partition coefficient: n-octanol/waterLog Kow > 6,5 (Method EC A8)
9.1.16Auto-ignition temperature204 °C (Method EC A15)
9.1.17Decomposition temperatureno data available
9.1.18ViscosityKinematic viscosity 4.0 mm^2/s @ 20°C; 2.6 mm^2/s @ 40°C (OECD Guideline 114).
Viscosity, dynamic ≤ 5 mPas @ 20°C.
9.1.19Explosive propertiesNot explosive (Method EC A14)
9.1.20Oxidising propertiesNot oxidizing

9.2Other information

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10. STABILITY AND REACTIVITY

10.1Reactivity

No dangerous reaction known under conditions of normal use.

10.2Chemical stability

Stable under recommended storage conditions.

10.3Possibility of hazardous reactions

None known.

10.4Conditions to avoid

Keep away from fire, sparks and heated surfaces.

10.5Incompatible materials

Oxidizing agents

10.6Hazardous decomposition products

No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

11.1Information on toxicological effects

11.1.1Acute toxicity

Very low toxicity:
LD50/oral/rat > 2000 mg/kg (Method EC B1 tris)
LD50/dermal/rat = > 2000 mg/kg (Method EC B3)

11.1.2Irritation and corrosion

Not classified. (Method EC B4 and B5). Prolonged or repeated skin contact may irritate the skin and produce dermatitis. Oil mist may irritate the eyes and the respiratory tract. When ingested, product irritates the digestive tract.

11.1.3Sensitisation

Non-sensitizing (Method EC B6).

11.1.4Subacute, subchronic and prolonged toxicity

In vitro tests did not show mutagenic effects (Method EC B10, B12, B13/14 and B17).
No toxicity to reproduction (OECD 416).

11.1.5STOT-single exposure

No known effect..

11.1.6STOT-repeated exposure

No known effect. (OECD 408).

11.1.7Aspiration hazard

May be fatal if swallowed and enters airways. Aspiration of product into the lungs can cause fatal chemical pneumonitis.

12. ECOLOGICAL INFORMATION

12.1Toxicity

12.1.1Aquatic toxicity

Very low toxicity.

Acute aquatic toxicity:
fish: LL50/96h > 1000 mg/L, WAF (OECD 203).
crustacean: EL50/48h > 100 mg/L, WAF (OECD 202).
alga: EL50/72h > 100 mg/L, WAF (OECD 201).

Chronic aquatic toxicity:
crustacean: NOEC/21d > 1 mg/L, WAF; LOEC/21d = 3.2 mg/L, WAF (OECD 211).
sediment organisms: NOEC/10d = 373 mg/kg; LOEC/10d = 1165 mg/kg; LC50/10d = 1200 mg/kg (OSPAR Protocols, Part A: Sediment Bioassay, 2005).

12.1.2Toxicity to other organisms

Micro-organisms (wastewater sludge): EC50/30min > 1000 mg/L; EC50/3h > 1000 mg/L (OECD 209).

12.2Persistence and degradability

12.2.1Biodegradation

Readily degradable (OECD 301B).

12.2.2Chemical degradation

Does not hydrolyze in water.

12.3Bioaccumulative potential

Possibly accumulative (log Kow > 6,5).

12.4Mobility in soil

Product evaporates slowly from surface soil and water. It dissolves slightly in water. Hydrocarbons can be adsorbed onto organic material in soil or sediment. (log Koc > 5.6; Method EC C19).

12.5Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6Other adverse effects

None known.

13. DISPOSAL CONSIDERATIONS

13.1Waste treatment methods

Product waste should be treated according to national regulations and local authorities´ advice. When handling the waste note the hazards and take care of necessary safety measures, labelling and information.

13.2Waste from residues / unused products

Empty containers may contain combustible product residues Empty containers should be taken for local recycling or waste disposal.

14. TRANSPORT INFORMATION

14.1UN number1202

14.2UN proper shipping nameUN 1202 Diesel fuel, 3, III

14.3Transport hazard class(es)3

14.4Packing groupIII

14.5Environmental hazards

ADN Special classification: F (floater).

14.6Special precautions for users

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14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transported by ship as bulk: Product name: Alkanes, C10-C26 linear and branched, (Flashpoint >60 deg.C) (NExBTL Renewable Diesel), Category Y, ST3.

15. REGULATORY INFORMATION

15.1Safety, health and environmental regulations/legislation specific for the substance or mixture

WGK = 1; Alkanes, C10-20 -branched and linear (Wassergefährdungsklasse, Germany)

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. Updated according to regulation (EU) N:o 453/2010 amending regulation (EC) N:o 1907/2006 (REACH).

15.2Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

16. OTHER INFORMATION

16.1Additions, Deletions, Revisions

Paragraph 1, 2, 11, 15, 16

16.2Key or legend to abbreviations and acronyms

CLP = Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
DSD = Council Directive (67/548/EEC) on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances
DPD = Directive 1999/45/EC of the European Parliament and of the Council concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations

DNEL = Derived No-Effect Level
PNEC = Predicted No-Effect Concentration
WAF = Water Accommodated Fraction
SU = Sector of Use
PROC = Process Category
PC = Product Category
ERC = Environmental Release Category

16.3Key literature references and sources for data

Regulations, databases, literature, own research. Chemical Safety Report 2013.

16.5List of relevant R phrases, hazard statements, safety phrases and/or precautionary statements

R65Harmful: may cause lung damage if swallowed.
R66Repeated exposure may cause skin dryness or cracking.
H304May be fatal if swallowed and enters airways.

16.7Recommended restrictions

Identified uses:

Distribution of substance (PROC 2, 3, 8a, 8b, 15; SU 8; ERC 1)
Formulation & (re)packing of substances and mixtures
(PROC 2, 3, 8a, 8b, 15; SU 10; ERC 2) and (PROC 1, 3, 8a, 8b, 9, 15; SU 10; ERC 7)
Use as a fuel:
Industrial use (PROC 1, 2, 3, 8a, 8b, 15, 16; SU 3; ERC 7)
Professional use (PROC 1, 2, 8a, 8b, 16; SU 22; ERC 8B, 8E)
Consumers (PC 13; SU 21; ERC 8B, 8E)
Use as an intermediate (PROC 1, 2, 3, 4, 8a, 8b, 15; SU 8; ERC 6A)

DO NOT SIPHON DIESEL FUEL BY MOUTH SUCTION.

16.8Further information

ADDITIONAL INFORMATION AVAILABLE FROM:
FuelBox, tel. +44 (0) 1279 425 757 or info@fuelbox.co.uk

ANNEX TO THE SAFETY DATA

SHEET **Green D+ Renewable Diesel**

Date: 01.02.2020

SECTION 1 EXPOSURE SCENARIO TITLE

Title Distribution of NExBTL renewable diesel - Industrial

Use Descriptor	Sector(s) of Use **SU 8:** Manufacture of bulk, large scale chemicals (including petroleum products)	
	Process Categories **PROC 2**: Use in closed, continuous process with occasional controlled exposure	
		PROC 3: Use in closed batch process (synthesis or formulation)
		PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
		PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
		PROC 15: Use as laboratory reagent
	Product Categories **PC:** NA	
	Environmental Release Categories	**ERC 1:** Manufacture of substances
Processes, Tasks and Activities Covered	Loading (including marine vessel/barge, rail/road car and IBC loading) of substance, including its distribution and associated laboratory activities.	

SECTION 2 OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES

Section 2.1 Control of worker exposure

Product characteristics	Physical form of product Liquid, vapour pressure < 0,5 kPa [OC3]. Kinematic viscosity < 20,5 mm_2/s @ 40 °C.	
	Vapour Pressure 87,1 Pa	
	Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13].
	Amount used Not applicable	
	Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2].
	Human factors not influenced by risk management	Not applicable.
	Other operational conditions affecting worker exposure	Assumes activities are at ambient temperature (unless stated differently) [G17].
		Assumes a good basic standard of occupational hygiene is implemented [G1].

Risk Management Measures	General exposures (closed systems) [CS15] Material transfer in closed lines	Outdoor [OC9].
	Process sampling [CS2]	Wear suitable gloves tested to EN374 [PPE15]. Outdoor [OC9].
	Laboratory activities [CS36]	Handle in a fume cupboard or under extract ventilation [E83]. Wear suitable gloves tested to EN374 [PPE15].
	Bulk transfers [CS14] (closed systems) [CS107]	Wear suitable gloves tested to EN374 [PPE15]. Use vapour recovery units when necessary [A7]. Outdoor [OC9].
	Equipment cleaning and maintenance [CS39]	Drain down system prior to equipment break-in or maintenance [E65].Wear suitable gloves tested to EN374 [PPE15]. All waste product is assumed to be collected and returned for re-processing or use as a fuel [ENVT8].
	Storage [CS67]	Transfer via enclosed lines [E52]. Store substance within a closed system [E84]. Outdoor [OC9].

Section 2.2 Control of environmental exposure

Assessment method	Petrorisk
Product characteristics	Green B+ renewable diesel is a readily biodegradable, slightly water soluble liquid of low volatility. Water solubility is 1.4E-3 mg/l at 25°C (Petrorisk); the vapour pressure is 5.1 Pa (Petrorisk); log Kow is 8.4. Not toxic to environment.
Amounts used	Regional tonnage: 800 ktonnes per year Max site tonnage: 40 tonnes per year
Frequency and duration of use	Emission days per year: 300
Environmental factors not influenced by risk management	Local freshwater dilution fraction: 10 Local marine dilution fraction: 100
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process: 1.0E-5 Release fraction to (waste)water from process: 1.0E-7 Release fraction to soil from process (regional): 1.0E-5
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	TCR8: Treat air emissions to provide a typical removal efficiency of 90%. TCR13: Provide onsite wastewater removal efficiency of ≥ 92.5%.
Organisation measures to prevent/limit release from site	OMS2: Do not apply industrial sludge to natural soils. OMS3: Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	Not applicable.

ANNEX TO THE SAFETY DATA

SHEET **Green D+ Renewable Diesel**

Date: 01.02.2020

Conditions and measures related to external treatment of waste for disposal	ETW3: Dispose of waste in accordance with environmental legislation.
Conditions and measures related to external recovery of waste	ETW1: Dispose of waste in accordance with environmental legislation.
Other environmental control measures additional to above	ENV3: Bund storage facilities to prevent soil and water pollution in the event of spillage.

SECTION 3 EXPOSURE ESTIMATION

Section 3.1 Health

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterisation ratios are expected to be less than 1 as indicated in Appendix A.2.

Section 3.2 Environment

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 Health

Confirm that RMMs and OCs are as described or of equivalent efficiency. See Appendix A.2 for details of efficiencies and OC.

Section 4.2 Environment

Confirm that RMMs and OCs are as described or of equivalent efficiency. The required efficiency removal from water is 92.5% which would be typically found in waste-water treatment plant.