



# MATERIAL SAFETY DATA SHEET

Date / Revised: 17/01/23

Product Name: FireDragon Green & Clean Solid Fuel

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Name:	FireDragon Green & Clean Solid Fuel
Product No.	FD336B, CN336, CN336S, CN336PA, CN336PB, CN336MOD
Product Application	Polymerised-alcohol fuel. Intended for use as a firelighter and/or cooking fuel. May be used as a hand cleanser. Use in accordance with product instructions.
Supplier	BCB International LTD, Howell House, Lamby Industrial Park, Cardiff, CF3 2EX, United Kingdom
Emergency Telephone	+44 (0) 29 2043 3700/ +44 (0) 1554 823824 (08:00 – 17:00 Mon-Fri only)

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008

One or more of the substances in this product feature the following hazards as a raw material:

Flammable solid (Category 2), H228

Eye irritant (Category 2), H319

For the full text of the H-statements mentioned in this section, see section 16.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008

Pictogram



Signal word

Warning

Hazard statement(s)

H228

Flammable solid.

H302

Harmful if swallowed.

H319

Causes serious eye irritation.

Precautionary statement(s)

P101

If medical advice is needed, have product container or label at hand.

P103	Read label before use
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing vapours.
P271	Use only outdoors or in a well-ventilated area.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

For full list of precautionary statements, see section 16.

Supplemental hazard statements

### 2.3 Other hazards

This product is highly flammable. With container open, explosive vapour/air may be formed even at normal room temperatures.

During combustion/fire, the product becomes molten and exhibits flow.

In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	EC No.	Content (%)	Classification acc. to Regulation (EC) No 1272/2008
Ethanol, denatured	64-17-5	200-578-6	85-95	Flam. Liq. 2 (H225), Eye Irrit. 2 (H319)

Other ingredients are not deemed hazardous.

The full text for all H-statements are given in section 16.

## SECTION 4: FIRST-AID MEASURES

### 4.1 Description of first aid measures

<b>General Advice</b>	Rest, warmth and fresh air. Seek medical attention if symptoms persist. Show this safety data sheet to the physician in attendance. Never give an unconscious person anything by mouth.
<b>Inhalation</b>	Remove to fresh air and rest. If not breathing, give artificial respiration. If symptoms persist, seek medical attention.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth immediately and give plenty of water or milk to drink. If symptoms persist, seek medical attention. Never give an unconscious person anything by mouth.
<b>Skin contact</b>	Remove contaminated clothing. Wash affected area with soap and water.
<b>Eye contact</b>	Flush with water for at least 15 minutes. Remove contact lenses if present and safe to do. Avoid washing chemical from one eye into the other. Ensure to rinse thoroughly under the eyelid. If symptoms persist, seek medical attention.

- 4.2 Most important symptoms and effects, both acute and delayed.**
- |              |   |
|--------------|---|
| Inhalation   | May cause respiratory irritation. May cause drowsiness, dizziness and/or headaches. |
| Ingestion    | Gastrointestinal symptoms; nausea, upset stomach, vomiting.                         |
| Skin contact | Repeated exposure may cause skin dryness or cracking.                               |
| Eye contact  | Irritation may occur, causing redness and pain.                                     |
- 4.3 Indication of any immediate medical attention and special treatment needed**  
Treat symptomatically.

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## SECTION 5: FIRE-FIGHTING MEASURES

- 5.1 Extinguishing Media**
- |                                       |   |
|---------------------------------------|---|
| <b>Suitable extinguishing media</b>   | Alcohol-resistant foam, dry powder, carbon dioxide, water fog and sand. |
| <b>Unsuitable extinguishing media</b> | Do not use high-pressure water jets.                                    |
- 5.2 Special hazards arising from the mixture**
- Carbon oxides, nitrogen oxides (NO<sub>x</sub>) and oxides of sodium may be produced during combustion.
- Product may produce vapour which may be invisible, heavier than air and spread along the ground. During combustion, solid fuel will become molten and exhibit flow. Vapours may form explosive mixtures with air. Flash-back possible over some distance.
- 5.3 Advice for firefighters**
- Wear self-contained breathing apparatus. Wear full-protective gear if necessary. Keep containers cool with water spray. Water run-off or discharge should not enter drains.
- 5.4 Further information**
- No information available.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures**
- Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.
- 6.2 Environmental precautions**
- Ensure waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container. Do not allow water run-off or discharge to enter drains or environment.

<b>6.3</b>	<b>Methods and materials for containment and cleaning up</b>	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13). Collect waste absorbent with either an electrically protected vacuum cleaner or by wet-brushing. Wash area thoroughly with water after.
<b>6.4</b>	<b>Reference to other sections</b>	See section 1 for emergency contact information. See section 8 for personal protective equipment. See section 13 for waste treatment information.

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## SECTION 7: HANDLING AND STORAGE

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<b>7.1</b>	<b>Precautions for safe handling</b>	Avoid skin and eye contact. Avoid spillages. Avoid inhalation of vapour or mist. Keep away from sources of ignition. No smoking. Take measures to prevent the build-up of electrostatic charge. If left exposed, flammable and irritating vapours will be emitted. Ensure adequate ventilation. For precautions see section 2.2.
<b>7.2</b>	<b>Conditions for safe storage, including any incompatibilities</b>	Store in a cool, dry place. Keep container closed in a well-ventilated place. Keep away from direct sunlight and sources of heat or ignition. Do not store with strong oxidising agents.
<b>7.3</b>	<b>Specific end use(s)</b>	Apart from the uses mentioned in section 1.2, no other end uses are stipulated.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1 Control Parameters

#### Components with workplace control parameters

Due to the nature of the product, workplace exposure limits are unlikely to be exceeded. The product has not been tested for workplace exposure limits when used as stipulated in section 1.2.

One or more component exhibits workplace exposure limits as a raw material, as below:

Ethanol	EH40 WEL, TWA – 8h	1,000ppm, 1,920mg/m <sup>3</sup>
	ELV (IE), STEL	1,000ppm

### 8.2 Exposure Controls

#### Appropriate engineering controls

Provide adequate ventilation to ensure the defined work place exposure limits are not exceeded.

#### Personal protective equipment

<b>Skin protection</b>	Where possible, wear suitable gloves. As the product is a mixture of several substances, the durability of the glove material cannot be calculated in advance and should be tested before use. Protective gloves should be replaced if damaged or otherwise compromised through wear and tear. Protective gloves should comply with EN 374.
<b>Eye/face protection</b>	Contact lenses should be avoided when working with this product. Safety glasses, when worn, should comply with EN 166.
<b>Body protection</b>	Due to the nature/size of the product, specific clothing is not usually necessary. Impervious clothing, Flame-retardant antistatic protective clothing may be worn when handling large quantities.
<b>Respiratory protection</b>	Due to the nature of the product, no personal respiratory protective equipment is normally required in well ventilated areas. In case of insufficient ventilation, wear suitable respiratory aid equipment. A Type A filter is recommended and mask to EN 143
<b>Control of environmental exposure</b>	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid, colourless. Usually translucent, sometimes opaque
Odour	Alcoholic
pH	8
Melting/freezing point	60-65°C
Initial boiling point	78°C
Flash point	17°C (Cleveland open cup; BS EN ISO 2592:2001)
Upper explosion limit	19% (V)
Lower explosion limit	3.3% (V)
Vapour pressure	5.85kPa (20°C)
Flammability	No data available
Relative density	0.84g/cm <sup>3</sup> (20°C)
Water solubility	Partially soluble (20°C)
Auto-ignition temperature	363°C
Decomposition temperature	No data available
Viscosity	No data available
Oxidising properties	No data available
Explosive properties	Formation of explosive air/vapour mixtures is possible.
Gross calorific value	29MJ/kg (approx.)

#### SECTION 10: STABILITY AND REACTIVITY

<b>10.1</b>	<b>Reactivity</b>	Stable under recommended storage conditions.
<b>10.2</b>	<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>10.3</b>	<b>Possibility of hazardous reactions</b>	No data available.

<b>10.4</b>	<b>Conditions to avoid</b>	Heat, flames, sparks, extremes of temperature and direct sunlight.
<b>10.5</b>	<b>Incompatible materials</b>	Alkali metals, ammonia, oxidising reagents, peroxides.
<b>10.6</b>	<b>Hazardous decomposition products</b>	Other decomposition products – no data available. In the event of fire, see section 5.

## SECTION 11: TOXICOLOGICAL INFORMATION

<b>11.1</b>	<b>Information on toxicological effects</b>	
	<b>Acute toxicity</b>	Toxic Dose – LD <sub>50</sub> >2000 mg/kg (oral rat) Toxic Concentration – LC <sub>50</sub> >20 mg/l (4hr mouse)
	<b>Skin corrosion/irritation</b>	Repeated exposure may cause skin dryness or cracking.
	<b>Serious eye damage/irritation</b>	Causes serious eye irritation. May cause redness and pain.
	<b>Respiratory damage/irritation</b>	May cause mechanical respiratory irritation. May cause drowsiness, dizziness and/or headaches.
	<b>Ingestion</b>	Gastrointestinal symptoms; nausea, upset stomach and/or vomiting.
	<b>Respiratory or skin sensitisation</b>	No data available.
	<b>Germ cell mutagenicity</b>	No data available.
	<b>Carcinogenicity</b>	No data available.
	<b>IARC:</b>	No component of this product present at levels greater than or equal to 0.1% is identified as probably, possible or confirmed human carcinogen by IARC.
	<b>Reproductive toxicity</b>	No data available.
	<b>Specific target organ toxicity – single exposure</b>	Ethanol is a CNS depressant. Exposure to vapours may cause dizziness, drowsiness and/or headaches.
	<b>Specific target organ toxicity – repeated exposure</b>	No data available. Similar symptoms to STOT – single exposure may occur.
	<b>Aspiration hazard</b>	No data available.
	The chemical, physical and toxicological properties have not been thoroughly investigated for this product.	

Values presented are based on available literature. No testing was carried out for this product.

## SECTION 12: ECOLOGICAL INFORMATION

<b>12.1</b>	<b>Toxicity</b>	LC <sub>50</sub> : > 100 mg/l (96 hrs, Fish) EC <sub>50</sub> : > 100 mg/l (48 hrs, Daphnia) IC <sub>50</sub> : > 100 mg/l (72 hrs, Algae)
<b>12.2</b>	<b>Persistence and degradability</b>	No data available.
<b>12.3</b>	<b>Bioaccumulative potential</b>	No data available.
<b>12.4</b>	<b>Mobility in soil</b>	No data available.
<b>12.5</b>	<b>Results of PBT and vPvB assessment</b>	PBT and vPvB assessment not available as chemical safety assessment not required, not conducted. No component of this product is deemed PBT or vPvB
<b>12.6</b>	<b>Other adverse effects</b>	Will dissolve and disperse in an aqueous environment. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

Values presented are based on available literature.

## SECTION 13: DISPOSAL CONSIDERATIONS


### 13.1 Waste treatment methods

<b>Product</b>	Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable product to a licensed hazardous waste disposal company. Any material used to control spillage must be disposed of in the same way. Dispose of in accordance with local and national regulations.
<b>Contaminated packaging</b>	Empty contaminated packaging thoroughly. This can be recycled after thorough and proper cleaning. Packaging that cannot be cleaned is to be disposed of in the same manner as the product.

## SECTION 14: TRANSPORT INFORMATION

One or more of this product's components are classified as dangerous good for transportation by ADR/RID, IMDG or IATA. Available information and product testing allows determination of dangerous goods transport class for this product.

<b>14.1</b>	<b>UN number</b>	
	ADR/RID	1325
	IMDG	1325

	IATA	1325
<b>14.2</b>	<b>UN proper shipping name</b>	
	ADR/RID	Flammable solid, organic, N.O.S, (ethanol mixture)
	IMDG	Flammable solid, organic, N.O.S, (ethanol mixture)
	IATA	Flammable solid, organic, N.O.S, (ethanol mixture)
<b>14.3</b>	<b>Transport hazard class(es)</b>	
	ADR/RID	Class 4.1: Flammable solid
	IMDG	Class 4.1: Flammable solid
	IATA	Class 4.1: Flammable solid
	Packing label	
<b>14.4</b>	<b>Packing group</b>	
	ADR/RID	III
	IMDG	III
	IATA	III
<b>14.5</b>	<b>Environmental hazard</b>	
	ADR/RID	No
	IMDG	No
	IATA	No
<b>14.6</b>	<b>Special precautions for user</b>	Tunnel Code (E)

## SECTION 15: REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

Take note of regulation (EC) 1272/2008 on the classification, labelling and packaging of substances and mixtures.

Take note of the control of substances hazardous to health (COSHH) regulations, 2002.

Take note of directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of directive 92/85/EEC on the protection of the health and safety of pregnant workers.

Take note of directive 94/33/EC on the protection of young people at work

Take note of workplace exposure limits, 2005 (EH40)

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16: OTHER INFORMATION

### Full text of H-statements referred to under sections 2 and 3.

H228	Flammable solid
H302	Harmful if swallowed



H319 Causes serious eye irritation

**Full text of P-statements referred to under section 2.**

P101 If medical advice is needed, have product container, or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 Avoid breathing vapours.

P271 Use only outdoors or in a well-ventilated area.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Acronyms**

STOT Specific-target organ toxicity.

STEL Short-term exposure limit.

TWA Time-weighted average.

LC<sub>50</sub> Lethal concentration - concentration at which 50% of the population is killed.

LD<sub>50</sub> Lethal dose – dose at which 50% of the population is killed in a given period of time.

IC<sub>50</sub> Inhibitor concentration – concentration of an inhibitor where the response/binding is reduced by half.

IARC International agency for research on cancer.

ADR/RID European agreement concerning the international carriage of dangerous goods by road and railway.

IMDG International maritime dangerous goods code.

IATA International air transport association.

PBT Persistent, bioaccumulative and toxic.

vPvB Very persistent, very bioaccumulative.

**Further information**

The information in this Safety Data Sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations, management and for people working with or handling this product. This information is believed to be reliable and correct at the Revision Date, and represents the best information currently available and known by BCB International Ltd. However, BCB International Ltd makes no guarantee or warranty, express or implied, with respect to such information and we assume no liability and anticipated used and is for the material without chemical additions or alterations. Users should make their own investigations to determine the suitability of the information for their particular purposes. It is the responsibility of the user to undertake a suitable risk assessment/COSHH assessment prior to using the material.

*Reason for update: Periodic review and sign off*