Section 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1 Product identifier: Dual Fuel 2
1.1.1 Mixture
1.1.2 Other means of identification: Green Planet Dual Fuel 2
1.2 Relevant identified uses of the substance or mixture and uses advised against
1.2.1 Relevant identified uses:
Complete fertilizer to be used with Green Planet Dual Fuel 1 for: soil, soilless, coco coir, hydroponic or any other growing media application.
1.2.2 Uses advised against:
Mixing the product in concentrate with other fertilizer products.
Reasons: formation of precipitate, sediment, or insoluble components.
1.3 Details of the supplier of the safety data sheet:
Supplier:
Green Planet
15374 – 103A Ave.
Surrey, BC
Canada
V3R 7A2
Tel: (604)-580-1287 Fax: (604)-580-2375
E-Mail : info@mygreenplanet.com
1.4 EMERGENCY TELEPHONE NUMBER: 1-866-913-4769

Section 2: HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification
Skin Irrit. 3 – H316
Eye Irrit. 2B –H320

2.2 Label elements
Hazard pictograms:
N/A
Signal word:
Warning
Hazard statements:

H316	Causes mild skin irritation.
H320	Causes eye irritation.

Precautionary statements:

P101	If medical advice is needed, have product container or label on hand.
P102	Keep out of reach of children.
P103	Read label before use.
P264	Wash hands thoroughly after handling.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice.

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2.3 Other hazards

REACTIVITY: Not reactive.
SYMTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of overexposure for this product are by contact with skin and eyes.
ACUTE:
INHALATION: No data available.
CONTACT WITH SKIN: Exposure may cause mild skin irritation.
EYE CONTACT: Contact can cause eye irritation.
INGESTION: Ingestion of large quantities may cause abdominal cramps, nausea, vomiting, diarrhea.

Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS

3.1 Mixtures

3.1.1 Description of the mixture:

Aqueous solution of Magnesium Sulfate, Potassium Phosphate, Potassium Sulfate.

3.1.2 Ingredients:

Substance name	CAS No.	INDEX No.	EC No.	Concentration	Classification
Water	*7732-18-5*		*231-791-2*	*30-70%*	*Not Classified*
Magnesium Sulfate	*7487-88-9*		*231-298-2*	*10-30%*	*Not Classified*
Potassium Dihydrogenorthophosphate	*7778-77-0*		*231-913-4*	*10-20%*	*Not Classified*
Potassium Sulfate	*7778-80-5*		*231-915-5*	*10-20%*	*Not Classified*

3.1.3 Additional information:

This mixture does not contain further substances fulfilling the criteria of hazard class acute toxicity according to CLP regulation.

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

4.1.1 Following inhalation:

If breathing becomes difficult, move the person to fresh air. If not breathing, or breathing becomes irregular, provide artificial respiration or oxygen by trained personal. Seek medical attention.

4.1.2. Following skin contact:

Rinse the affected area with plenty of water. Seek medical attention if irritation develops and persists. Remove contaminated clothing. Launder before reuse.

4.1.3. Following eye contact:

If product enters the eyes, open eyes while under gentle running water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Seek medical attention.

4.1.4 Following ingestion:

Wash out mouth with plenty of water. Do not induce vomiting unless instructed to do so by medical personal. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: Irritant. May cause skin and eye irritation. Effects of exposure to substance may be delayed.

4.2.1 Inhalation:

May cause respiratory irritation if inhaled. Symptoms may be delayed.

4.2.2. Skin contact:

Contact may cause irritation.

4.2.3. Eye contact:

Contact may cause irritation.

4.2.4 Ingestion:

Ingestion of large quantities may cause abdominal cramps, nausea, vomiting, diarrhea.

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Section 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media: Fire can be extinguished with water, carbon dioxide, powder or foam. Use extinguishing media appropriate for the surrounding fire.

Unsuitable extinguishing media: None are known.

5.2 Special hazards arising from the substance or mixture:

Hazardous combustion products: None are known.

5.3 Advice for fire-fighters:

Wear appropriate protective equipment and a Self-Containing Breathing Apparatus (SCBA). Isolate the materials not yet involved in the fire and protect personal. Move the containers from the fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:

Protective equipment: Wear safety glasses, use an appropriate respirator when ventilation is inadequate, wear chemical resistant gloves before handling the product.

Emergency procedures: Do not touch or walk through spilled material without suitable training.

6.1.2 For emergency responders:

Personal protective equipment: For complete personal protection, see section 8.

6.2 Environmental precautions

If possible, prevent entry into sewers, storm drains, surface waters, and soils. If contamination occurs, inform the relevant authorities if the product has caused environmental pollution.

6.3 Methods and material for containment and cleaning up

6.3.1 For containment:

Stop leaks if possible without risk. Move containers away from spill area. Cover drains, storm, and sewer entrances.

6.3.2 For cleaning up:

Spilled liquid should be removed immediately as to avoid formation of dust from dried preparation. Rinse the area with water and mop up the remainder of the residue. **DO NOT USE BLEACH.**

Section 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

7.1.1 Protective measures:

To prevent skin and eye contact, wear appropriate protective clothing and safety eye ware. Avoid spills and keep away from drains. Keep the container tightly closed when not in use.

7.1.2 Advice on general occupational hygiene:

Do not eat, drink or smoke when handling the material. Wash hands and face after handling the material. Remove contaminated clothing and personal protective equipment.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep the container tightly closed, in a well ventilated area, away from direct sources of heat or ignition. Do not store in direct sunlight. Keep between 0-35 °C (32-95 °F). Do not store unlabelled containers. Do not store opened containers on its side.

Requirements for storage rooms and vessels:

Ambient temperature, humidity and pressure.

7.3 Specific end uses:

Recommendations: liquid fertilizer for hydroponic, soilless, soil and coco coir media.

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Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters

Ocupational exposure limits:

Limit value type (country of origin)	Substance name	Occupational exposure limit value		EC-No.	CAS-No.	Monitoring and observation processes	Peak limitation	Source
		Long term	Short term					
	n/a							

8.1.2 Exposure limits at intended use:

None available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls:

Sufficient ventilation should always be provided to control worker exposure to airborne contaminants. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure controls.

8.2.2 Personal protective equipment:

8.2.2.1 Eye / Face protection:

Suitable eye protection: Face shield. Chemical safety goggles.

Other eye protection measures: Face shield if sufficient risk of splashing is present. Refer to U.S. OSHA 29 CFR 1910.133 or the European Standard EN166.

8.2.2.2 Skin protection:

Hand protection: Chemical resistant neoprene or polyvinyl alcohol gloves.

Body protection: Use body protection appropriate for the task. Chemical resistant suit and boots. Do not wear sandals, shorts, or cut of t-shirts.

Other skin protection measures: If deemed necessary, refer to U.S. OSHA 29 CFR 1910.136/138, or the European Standard DIN EN 374

8.2.2.3 Respiratory protection:

Not required in properly ventilated areas.

8.2.2.4 Thermal hazards

None applicable.

8.2.3 Environmental exposure controls:

Refer to “Section 6” for environmental containment and clean up.

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Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

9.1.1 Appearance

Physical state: Liquid **Colour:** Colourless **Odour:** Odourless

	value	temperature	pressure
pH	3.9	Ambient	
Melting point/freezing point	-5.0°C	Ambient	
Initial boiling point/boiling range	100°C	Ambient	
Flash point	Not Available		
Evaporation rate	Not Applicable		
Flammability (solid, gas)	Not Available		
Upper/lower flammability or explosive limits	Not Available		
Upper explosive limits	Not Available		
Lower explosive limits	Not Available		
Vapour pressure	Not Available		
Vapour density	Not Applicable		
Relative density	1.2 g/ml	Ambient	
Solubility(ies)	Complete in water		
Partition coefficient: n-octanol/water	Not available		
Auto-ignition temperature	Not available		
Decomposition temperature	Not available		
Viscosity	Not Applicable		
Viscosity, dynamic	Not Applicable		
Viscosity, cinematic	Not Applicable		
Explosive properties	Not considered explosive		
Oxidising properties	Not considered an oxidizer		

Section 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

No hazardous reactions when handled and stored according to provisions.

10.3 Possibility of hazardous reactions

None are known.

10.4 Conditions to avoid:

Freezing. Evaporation until dryness. High temperatures. Exposure to sunlight.

10.5 Incompatible materials:

None are known.

10.6 Hazardous decomposition products:

No known hazardous decomposition products.

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

11.1.1 Mixture

Acute toxicity

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Practical experience / human evidence: May cause mild skin irritation.

Assessment / Classification: Category 3 Skin Irritant

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Eye damage/irritation
Practical experience / human evidence: May cause eye irritation.
Assessment / Classification: Category 2B Eye Irritant

Sensitization to the respiratory tract/skin
Based on available data, the classification criteria are not met.

Sensitization to the respiratory tract
Based on available data, the classification criteria are not met.

Skin sensitization
Based on available data, the classification criteria are not met.

CMR effects (carcinogenetic, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Carcinogenicity
Based on available data, the classification criteria are not met.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Overall assessment on CMR properties:
Ingredients within this product are not found on the following lists: OSHA Subpart Z, EPA IRIS, IARC, NTP, CalEPA; and therefore are not considered to be, nor suspected to be, cancer causing by these agencies.

Specific target organ toxicity (single exposure)

STOT SE 1 and 2
Based on available data, the classification criteria are not met.

STOT SE 3

Irritation to respiratory tract:
May cause respiratory irritation – inhalation

Narcotic effects
Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

STOT RE 1 and 2
Based on available data, the classification criteria are not met.

Aspiration hazard
Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity:

12.1.1 Aquatic toxicity

Acute (short-term) fish toxicity

	Effect dose/ Concentration	Test Duration	Species	Result/ Evaluation	Method	Remark
Magnesium Sulfate	19,000 mg/l	24 h	Lepomis macrochirus	LC50	unmeasured	*J. Water Pollut. Control Fed.37(9): 1308-1316*

Chronic (long-term) fish toxicity

	Effect dose/ Concentration	Test duration	Species	Result/ Evaluation	Method	Remark
Magnesium Sulfate	8,000,000 – 11,000,000 ug/L	2 E x WK 1-6 week(s)	Oncorhynchus mykiss	Mortality	unmeasured	*M.S.Thesis, University of Wyoming, Laramie, WY:59 p.*
Potassium Dihydrogenphosphate	Diet: 6.14 %	27 weeks	Oncorhynchus mykiss	Mortality 32.3 %	unmeasured	*Nippon Suisan Gakkaishi59(8): 1395-1400*

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Acute (short-term) toxicity to crustacean

	Effect dose/ Concentration	Test Duration	Species	Result/ Evaluation	Method	Remark
Magnesium Sulfate	2,180 – 2,500 mg/L	24 h	Daphnia magna	LC50	unmeasured	*Environ. Toxicol. Chem.16(10): 2009-2019*

Chronic (long-term) toxicity to crustacean

	Effect dose/ Concentration	Test Duration	Species	Result/ Evaluation	Method	Remark
Magnesium Sulfate	360 mg/L	3 x WK 3 weeks	Daphnia magna	Mortality	unmeasured	*Hydrobiologia10 8:25-31*
Potassium Dihydrogenphosphate	Diet: 6.14 %	27 weeks	Oncorhynchus mykiss	Mortality 32.3 %	unmeasured	*Nippon Suisan Gakkaishi59(8): 1395-1400*

12.2 Persistence and degradability
Biodegradation:
Assessment / Classification:
Readily biodegradable (according to OECD Guideline 302B).

12.3 Bioaccumulative potential
Assessment / Classification:
The product completely dissociates in water. Based on physiochemical properties (high water solubility), the product has a low potential for bioaccumulation.

12.4 Mobility in soil
Assessment / Classification:
The product has a low potential for adsorption. Portion not taken up by the plants, can leach into ground water.

12.5 Results of PBT and vPvB assessment
This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

Section 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
13.1.1 Product / Packaging disposal:
Disposal should be in accordance with applicable federal and state laws.

13.1.2 Other disposal recommendations:
Agricultural producers disposing of waste from their own use are exempt from hazardous waste requirements as long as (1) they triple rinse the emptied containers in accordance with the labeling to facilitate removal of the chemical from the container, and (2) they dispose of the residue on their own agricultural establishment in a manner consistent with the disposal instructions in accordance with the federal and state laws.

13.2 Additional information:
Irrigation return flows are not considered hazardous waste.
The product is not listed as dangerous waste in the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
The product does not have an EPA Hazardous Waste Number.

Section 14: TRANSPORT INFORMATION

	Land transport (ADR/RID)	Inland waterway transport (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN No.	Non dangerous good			
14.2 UN Proper shipping name	Not applicable			
14.3 Transport hazard class(es)	Not applicable			
Hazard label(s)	Not applicable			
14.4 Packing group	Not applicable			
14.5 Enviromental hazards	Not applicable			

14.6 Special precautions for user: None

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

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14.8 Additional information

14.8.1 All transport carriers

14.8.2 Land transport (ADR/RID)

Limited quantity: Not applicable
Special provisions: None
Tunnel restriction code: Not applicable
Classification code: Not applicable
Transport category: Not applicable
Hazard identification number (Kemler No.): Not applicable
Remark: Non dangerous good

14.8.3 Inland waterway transport (ADN)

Limited quantity: Not applicable
Special provisions: None
Category: Not applicable
Remark: Non dangerous good

14.8.4 Sea transport (IMDG)

Limited quantity: Not applicable
Special provisions: None
Marine pollutant: No
Segregation group: Not applicable
Remark: Non dangerous good

14.8.5 Air transport (ICAO-TI / IATA-DGR)

Limited quantity: Not applicable
Special provisions: None
Remark: Non dangerous good

Section 15: REGULATORY INFORMATION

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

15.1.1 US Federal

SARA Title III Rules
Section 313 Toxic Chemicals
This product does not contain any chemicals which are subject to reporting requirements of the Act and 40 CFR Part 372.
Section 311/312 Hazard Classes
Acute Health Hazard: None
Chronic Health Hazard: None
Fire Hazard: None
Release of Pressure: None
Reactive Hazard: None

15.1.2 US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

15.1.3 Canada

WHIMIS Classification
Not classified
This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

15.1.4 European Union

Classification according to the Regulation (EC) No 1272/2008 [EU-GHS/CLP]
No additional information available.

15.2 Chemical Safety Assessment:

No additional information available.

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Section 16: OTHER INFORMATION

16.1 Indication of changes

Version No.: 1.0 - 19/07/2016

16.2 Disclaimer:

The information provided on this SDS is believed to be accurate to the best of our knowledge, but is not warranted to be so. The information provided is intended to present guidance for safe handling, use, processing, storage, transport, disposal, and discharge; it is not intended to be a guarantee or quality specification. Green Planet LLC assumes no responsibility for injury to vendee or third party person proximately caused by the material if safety procedure are not adhered to as stipulated in the SDS. Furthermore, Green Planet LLC assumes no responsibility for injury caused by abnormal use of the product even if reasonable safety procedures are followed. It is the responsibility of the recipient of this SDS to ensure that information given here is read and understood by all who use, handle, dispose of, or in any way come in contact with the product.

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