SAFETY DATA SHEET (SDS)

1. IDENTIFICATION

Product name: Cool Terra® Organic

Other names: Biochar

Product use: Soil amendment/conditioner

COMPANY IDENTIFICATION Cool Planet Energy Systems
6400 S. Fiddlers Green Circle
Greenwood Village, CO 80111

PHONE: (888)564-9332

EMERGENCY TELEPHONE (24 HOUR): 800-424-9300 (CHEMTREC)

2. HAZARD IDENTIFICATION

GHS Classification: Not classified according to GHS classification criteria when packaged and stored in accordance with Section 7 of this data sheet.

Signal word: N/A

Hazard Statement: N/A

Precautionary statements: N/A

Other hazards: WARNING! May form combustible dust concentrations in the air during processing. Exposure to fine particulates or dusts may cause mechanical irritation of skin, eyes, nose and throat. Prolonged overexposure may lead to pulmonary disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	CAS Number	Percent	Hazard Classification
Charcoal (biochar produced from coconut shells)	16291-96-6	100	Not classified

4. FIRST AID MEASURES

SEEK IMMEDIATE MEDICAL ATTENTION IF IRRITATION OCCURS.

Inhalation: Remove the person to fresh air. Treat respiratory distress as appropriate (artificial respiration, etc.) Provide oxygen if necessary. In not breathing, give mouth-to mouth resuscitation and seek immediate medical attention.

Eyes: Immediately flush eyes with large amounts of temperate water for a minimum of 15 minutes. Consult an ophthalmologist for a more detailed medical evaluation.

Skin: Wash skin thoroughly with mild soap and room temperature running water. Seek medical attention if irritation occurs.

Ingestion: If ingestion occurs, seek immediate medical attention.

Symptoms of exposure: May include irritation of the eyes, skin, and respiratory tract, and abdominal discomfort.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray, dry chemical powder, carbon dioxide, or alcohol-resistant foam.

Firefighting equipment: It is recommended that full bunker gear including a positive pressure self-contained breathing apparatus be worn when fighting fires. Smaller fires may not require full gear and respiratory protection: however, care should always be made to avoid breathing any combustion products.

Fire/Explosion Hazards: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Contact with incompatible materials may results in rapid combustion.

Hazardous combustion products: Carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

General: Avoid contact with skin, eyes or clothing. Follow personal protective equipment recommendations found in Section 8. Eliminate all ignition sources. Avoid creating or breathing dust. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air; wet sweep or scrape into approved container for proper disposal or use an explosion proof vacuum for clean-up. Do not clear dust surfaces with compressed air. Non-sparking tools should be used. See Section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling: Avoid exposure to heat. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke while handling this product. Avoid dust generation and accumulation. Routine housekeeping should be instituted to ensure the dusts do not accumulate on surfaces. Avoid ignition sources. Keep away from oxidizing materials and strong acids. The use of appropriate gloves is recommended to minimize the potential for skin contact (See Section 8). Provide adequate ventilation to minimize exposure. Do

not breathe dust. Provide proper NIOSH- or local authority-approved respirators if exposure limits are exceeded. Wash thoroughly after handling this product.

Storage: Material must be stored in containers with a volume less than 3 cubic meters. Storage of this material in quantities greater than 3 cubic meters will require reclassification of the product as Self-Heating – Category 2 and will require adequate labeling. Store in tightly closed containers in a well-ventilated, cool, dry, area. Avoid contact with incompatible materials. Keep from ignition sources, such as sparks and flames. NO SMOKING.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

MATERIAL	EXPOSURE LIMITS		
	OSHA PEL (a)	**ACGIH TLV(b)**	**NIOSH REL(c)**
Charcoal (Particulates not otherwise regulated/specified)	Total dust – 15mg/m3(d) TWA(e) Respirable dust(f) – 5mg/m3 TWA	Inhalable dust(f) – 10mg/m3 TWA Respirable dust – 3mg/m3 TWA	None established

(a) U.S. Department of Labor, Occupational Safety and Health Administration, permissible exposure limit (PEL); (b) American Conference of Governmental Industrial Hygienists', threshold limit value (TLV); (c) National Institute for Occupational Safety and Health recommended exposure limit (REL); (d) milligrams per cubic meter; (e) time-weighted average over an 8-hour day, 40-hour work week for OSHA PELs and ACGIH TLVs, or up to a 10-hour day, during a 40-hour work week for NIOSH RELs; (f) particles in the size range that are hazardous when deposited in the gas-exchange region of the lungs.

Engineering controls: Provide exhaust ventilation to minimize exposures and maintain the airborne dust concentrations below the occupational exposure limits. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks during processing.

Personal protective equipment:

Respiratory protection: The use of respiratory protection is not expected under normal conditions and use as airborne concentrations are anticipated to generally be below any applicable exposure limits. However, the use of a particulate filtering face piece respirator to limit exposure to nuisance levels of dust from routine handling of the material, especially in large quantities, is recommended. In the absence of adequate general or local ventilation, or limits, use a NIOSH- or local authority-approved respirator appropriate for the contaminant. Consult an industrial hygienist for assistance as needed.

Skin protection: Avoid skin contact. Use gloves that are impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Inspect gloves to ensure no rips or

tears or other loss of integrity and replace at regular intervals. Wear long sleeves, pants, and closed-toed shoes. Wash contaminated clothing before reuse.

Eye protection: Wear approved safety glasses or goggles when handling the product. Maintain an eye wash station near work areas.

Work/Hygiene practices: Perform routine housekeeping to prevent dust generation. Do not eat, drink or smoke, or use personal products when handling chemical substances. Wash hands before breaks and immediately after handling the product. Good personal hygiene should be exercised by all users of this product to minimize potential dermal and inhalation exposures.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black granules
Odor:	Charred odor
Odor Threshold:	Not determined
pH:	6.5-8
Melting point/Freezing point:	Not applicable
Boiling point:	Not applicable
Flash point:	Not applicable
Evaporation rate:	Not applicable
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Flammability:	Flammable
Explosibility:	As-is product is non-explosible; When handled, can generate explosible dust
Relative Density:	Not determined
Specific gravity	Not applicable
Solubility in water:	Insoluble

10. STABILITY AND REACTIVITY

This material is stable under expected conditions of use, handling, and storage.

Conditions to avoid: Avoid exposure to heat, flames, sparks, and other ignition sources. Avoid contact with incompatible materials. Avoid dust generation. Improper storage of material (see Section 7) or storing the material at elevated temperatures or in larger volumes may increase the risk of self-heating. Avoid storing material in confined or non-ventilated areas as wet carbon can deplete oxygen from the air.

Incompatible materials: Strong oxidizers and strong acids.

Hazardous decomposition: Carbon oxides.

11.TOXICOLOGICAL INFORMATION

Charcoal

NIOSH RTECS No: FF5250100
Acute effects of overexposure: Contact with material may cause mechanical irritation of the eyes, skin, and respiratory tract.
Chronic effects of overexposure: Prolonged overexposures to dust may lead to pulmonary disorders.
Target Organs: No information available in sources utilized.
Carcinogenicity: Not listed as a carcinogen by NTP, IARC, ACGIH, OSHA or NIOSH.
Mutagenicity: No information available in sources utilized.
Reproductive Toxicity: No information available in sources utilized.
Aspiration hazard: No information available in sources utilized.
Toxicity Data: Rat-oral lethal dose >5 g/kg
Rat-subcutaneous lethal dose > 5g/kg
Rat-intraperitoneal lethal dose > 5g/kg

12.ECOLOGICAL INFORMATION

Charcoal: No information in sources utilized

13.DISPOSAL CONSIDERATIONS

General: Follow all applicable local, national, provincial, territorial, and international regulations. As supplied, this material is not regulated as a hazardous waste under the US EPA Resource Conservation and Recovery Act (RCRA).

14.TRANSPORT INFORMATION

The product, when handled and packaged in accordance with this safety data sheet, is not regulated by US DOT, ICAO/IATA, or IMDG.

When individual packages are in a volume of greater than 3 cubic meters, the material must be transported under the following classification:

US DOT, ICAO/IATA, IMDG
Shipping name: Carbon activated
Label/Placard: Spontaneously combustible
Hazard Class: 4.2
UN Number: UN1362
Packing Group: III

15.REGULATORY INFORMATION

EPA TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS: All of the components of this product are listed on the TSCA inventory, 9005-25-8 is not regulated.

CALIFORNIA PROPOSITION 65: None of the components of this product are specifically listed.

16.OTHER INFORMATION

Refer to NFPA 654, *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids*, for safe handling.

Effective date: October 19, 2018
Last updated: October 19, 2018

DISCLAIMER: The information contained in this SDS is limited to the product's application as specifically described in Section 1. The information contained in this SDS may not be valid if the product is used in combination with other products or materials, or if it is used in any process not specified in this document. The information is accurate to the best of our knowledge, but does not purport to be all inclusive and should only be used as a general guide. It is the user's responsibility to ensure that the product will be suitable for a particular usage. The user assumes all responsibility for compliance with applicable Federal, State, and Local Regulations. We do not accept liability for damage or loss that may occur from this information.