



April 5, 2016

via electronic & regular mail

Program Manager
USDA/AMS/TM/NOP, Standards Division
1400 Independence Ave. SW
Room 2648-So., Ag Stop 0268
Washington, DC 20250-0268

Subject: Petition to establish separate classification for anaerobic
digestate on the National list of Allowed and Prohibited Substances

Greeting:

Attached is a petition of Cenergy USA, Inc. ("Cenergy"), for the establishment of a separate classification for plant and animal materials processed in a two stage mixed plug-flow anaerobic digester on the National List of Allowed and Prohibited substances ("National List"). Specifically, Cenergy is petitioning to separate anaerobic digestate from the classification of manure – raw, with restrictions.

Cenergy requests that the National Organic Standards Board review the request for the establishment of a new classification as part of the National Organics Program.

I am available to provide additional information and/or answer questions at your convenience.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert Joblin', written over a circular stamp or seal.

Robert Joblin
President
p: 501.868.6400
e: bob@cenergy.us

Petition Submitted
By
Cenergy USA, Inc.
Little Rock, Arkansas

Contact: Robert Joblin

Item A:

Petition for: Anaerobic Digestate – Plant and animal materials, heat treated for 21 days in a two stage mixed plug-flow anaerobic digester system to eliminate pathogens and remove volatile solids to be allowed without restrictions.

Category: Anaerobic digestate allowed for use in horticultural products, organic crop production and landscape applications

Section for inclusion of substance: §205.600 as plant or soil amendments

Item B:

1. Substance Common Name

Anaerobic Digestate

2. Manufacturer's Name and Contact Information

Cenergy USA, Inc. d/b/a Magic Dirt Horticultural Products, Inc.
11500 N. Rodney Parham Road, Suite 9, Little Rock, Arkansas 72212

Contact: Robert Joblin

Telephone: 501.868.6400

e-mail: bob@cenergy.us

3. Intended/Current Use of Substance

Intended Use of Substance

The petitioned substance, after being processed by a two stage mixed plug-flow anaerobic digester, will be used as an organic soil amendment/fertilizer in the horticultural industry, for the production of crops and in landscape applications without restrictions.

Current Use of Anaerobic Digestate:

Anaerobic digestate is currently being used in horticultural industry, for the production of crops and in landscape applications with restrictions.

4. A list of handling/processing procedures for which the substance is used

The substance (a/k/a fiber), which has been processed in the two stage mixed plug fowl anaerobic digester (described in Section 5) is used as a soil amendment in various forms, including: Premium Potting Soils, Garden Soils, Raised Bed Soils, Plant Foods, and once charred, in Soil Conditioners. This fiber is produced on a continuous basis by more than 80 operating digesters throughout the United States.

There are currently five Magic Dirt™ products in which anaerobically digested fiber is a key ingredient. It is also used as an alternative to peat moss in various horticultural processes, including starter pots for germination in the commercial greenhouse/nursery and home applications and an ingredient in horticultural mixes.

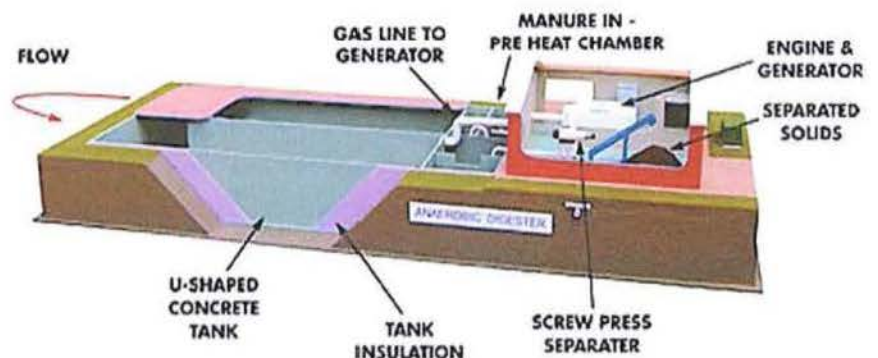
5. The source of the substance and a detailed description of its manufacturing or process procedures from the basic component to the final product

Stage One

Unprocessed waste such as animal manure and/or food scraps, a renewable resource, is collected in a receiving pit. The waste is collected throughout the day, chopped as needed and pumped directly into the anaerobic digester (AD) vessel. The input to the AD system is therefore uniform and has had little time for aerobic

degradation. The minimization of aerobic degradation of the raw waste results in more biogas production within the AD system and less odor surrounding the facility.

During the first stage of the AD concrete vessel, the raw waste is mixed and heated to a temperature of 101°F (38°C). Reclaimed waste heat from the electrical co-generation system, if available, is utilized to raise the temperature of the manure to the optimum growth temperature of the methanogenic bacteria. If the site is not producing electricity, then a boiler using biogas or natural gas is used to maintain digester temperature. The first stage of the AD system is designed to facilitate the growth of acid forming bacteria. These acid forming bacteria break down the complex organic waste material, found in the raw manure input stream, into simpler volatile fatty acids and acetic acid. Waste materials from the first stage of the AD vessel will gravity flow into the second stage of the AD vessel.



Stage Two

The second stage of the AD vessel is the largest stage, due to the slower growth rate of the methanogenic bacteria. The methanogenic bacteria convert the volatile fatty acids and acetic acids produced in the first stage of the AD vessel into a biogas, which consists primarily of methane and CO₂. Reclaimed waste heat from the electrical co-generation system will also be utilized in the second stage vessel to maintain a 101° F (38°C) fluid temperature, to offset thermal conduction losses through the vessel structure. After the second stage of the AD system, with a designed waste specific hydraulic retention time, the treated wastes will gravity flow into an effluent collection pit, from which the digested wastes will be further processed.

The system utilizes a two stage mixed plug-flow digester design. The horizontal movement of the waste is caused by additional waste being added to the digester and that same amount leaving the digester. Heating elements in the digester, as well as recirculated biogas, causes a rotational mixing motion perpendicular to the horizontal axis (similar to a cork screw). This design allows for the guaranteed retention time of a plug-flow digester, while keeping the benefits of less stratification and fewer settling issues seen in complete stirred tank reactors (CSTR), also known as mixed digesters.

The methane biogas is collected from the first two stages of the AD vessel and is utilized for fuel in the combined heat and power (CHP) genset. These gensets are commercially available, natural gas-fueled reciprocating engines modified to burn biogas. No purchased fuel is utilized in the AD system gensets to produce electricity. Electricity is utilized on-site with the balance sold to the local utility. No biogas or power storage is provided in this system and the system will continuously produce power and waste heat.

Waste heat from the electrical generator is retained and stored at as high a temperature from the electrical generator as possible. The waste heat, in the form of hot water, is collected from both the engine jacket liquid cooling system and from the engine exhaust (air) system. The remaining waste heat can be utilized by the dairy as a replacement for hot water production (reducing the need for natural gas or propane purchases) and for in-floor heating of the dairy and holding areas, as required. Biogas not utilized by the genset is utilized by a biogas boiler to produce additional heat for any further on-site applications.

After the waste has completed the digestion process, the digested material is generally pumped from the digester to liquid/solids separators. This could take the form of a vibrating screen, or screw press and is dewatered to approximately a 30-35% solid material. These solids are then generally carried by a conveyor belt to a storage area. The separated solids, having the same odor and pathogen reduction characteristics as the liquid stream, can be utilized by a dairy for bedding replacement (an expense reduction), or sold to after-markets, such as nurseries and composters, for soil amendment material.

The separated solids are often recycled on the farm or combined with other organic ingredients to produce various horticultural products. One such example is Magic Dirt™ (www.magic-dirt.com). Introduced in the spring of 2014, Magic Dirt™ is a blend of

nutrient-rich anaerobically digested fiber and other organic recycled materials that has a pH within the 6-7 range and a guaranteed analysis of 1.15% total N, 0.30% available phosphate and 0.35% soluble potash. More importantly, Magic Dirt™ outperforms and replaces products using peat moss, the harvest of which is detrimental to the environment. Only a two stage mixed plug-flow digesters provide the needed pathogen kill, because the system's design - a combination of a superb mixing system with a guaranteed retention time - ensures all material is fully digested.

6. A summary of any available previous reviews by State or private certification programs or other organizations of the petitioned substance

OMRI

Anaerobic digestate – plant materials

Status: Allowed

Class: Crop Fertilizers and Soil Amendments

Origin: Nonsynthetic

Description: Products of anaerobic digestion processes are acceptable if made from only allowed plant-based feedstock materials. Anaerobic digestate must not contain more than 1×10^3 (1,000) MPN fecal coliform per gram of digestate sampled and must not contain more than 3 MPN Salmonella per 4 grams of digestate sampled. See also ANAEROBIC DIGESTATE – PLANT AND ANIMAL MATERIALS

NOP Rule: 205.105(a); 205.203(c)

OMRI

Anaerobic digestate – plant and animal materials

Status: Allowed with Restrictions

Class: Crop Fertilizers and Soil Amendments

Origin: Nonsynthetic

Products of anaerobic digestion produced with manure or other animal material feedstock are subjected to the same restrictions as raw, uncomposted manure. They may only be (i) applied to land used for a crop not intended for human consumption; (ii) incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or (iii) incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles. See also MANURE – RAW, UNCOMPOSTED

NOP Rule: 205.105(a); 205.203(c)

Note that OMRI places the same restrictions on the application of anaerobic digestate – plant and animal materials equivalent to those placed on raw manure. The petitioner believes that plant and animal materials properly processed in a two stage mixed plug-flow anaerobic digester (as described in Section 5) meets the criteria established for Manure – processed, and should be an allowed crop material without restrictions. Currently, the petitioner's material is approved under this Class.

OMRI

Manure – processed

Status: Allowed

Class: Crop Fertilizers and Soil Amendments

Origin: Nonsymthetic

Manure products treated so that all portions of the product, without causing combustion, reach a minimum temperature of either 150° F (66° C) for at least one hour or 165° F (74° C), and are dried to a maximum moisture level of 12%; or an equivalent heating and drying process could be used. Processed manure may be used as a supplement to a soil building program without a specific interval between application and harvest. Processed manure products must not contain more than 1x10³ (1,000) MPN fecal coliform per gram of processed manure sampled and must not contain more than 3 MPN Salmonella per 4 grams of processed manure sampled. See also MANURE ASH; MANURE RAW, UNCOMPOSTED.

NOP Rule: 205.105(a); 205.203(c)

Note that the two stage mixed plug-flow anaerobic digester described in Section 5 holds the materials for 21 days at a temperature of 101° F (38° C). The longer processing time in the digester allows for more biogas (CH₄ and CO₂) extraction for the production of renewable energy. Because of this transformation of the material to the unique anaerobically digested fiber and concurrent elimination of pathogens in the process, the petitioner believes the material should be classified as organic without restrictions.

State of Idaho

For Use In Organic Production

Status: Approved

Class: Materials

Idaho State Department of Agriculture (ISDA) verifies that materials (fertilizers, livestock feed additives, sanitizers, etc.) used by operations, certified organic by the ISDA, comply with the national organic regulations.

Organic Food Products Law (Title 22, Chapter 11, Idaho Code)

The petitioner's material has been approved by the State of Idaho for use in organic production.

7. Information regarding EPA, FDA and State regulatory authority registrations, including registration numbers

See Section 6 above for OMRI definitions of anaerobic digestate.

Magic Dirt products using plant and animal materials processed in a two stage mixed plus-flow anaerobic digester are currently registered and sold in 15 states: Idaho, California, Washington, Oregon, Wyoming, Montana, Colorado, Utah, Iowa, Indiana, Illinois, Ohio, Michigan, Kentucky and Tennessee. Sample registrations follow.



STATE OF CALIFORNIA
DEPARTMENT OF FOOD AND AGRICULTURE
FEED, FERTILIZER, AND LIVESTOCK DRUGS REGULATORY SERVICES
1220 N STREET
SACRAMENTO, CA 95814

CERTIFICATE OF REGISTRATION FOR FERTILIZING MATERIALS
NON TRANSFERABLE

FIRM NO. 323466

Firm

CENERGY USA INC
11500 RODNEY PARHAM RD SUITE 9
LITTLE ROCK, AR 72212

is authorized to manufacture, deliver or sell in California the products listed below. Registration is not an endorsement or approval by the Department of Food and Agriculture of any product or any claim made for it. No reference may be made to the State of California Department of Food and Agriculture in labeling or advertisements. Registration may be canceled after hearing at any time for just cause. The composition of each product and the label used on it must be the same as those submitted by the registrant.

Please note that Bulk Agricultural Mineral and Commercial Fertilizer product labels that may be listed below are NOT registered, but have been reviewed, and their labeling is in accordance with the requirements of Section 14631 of the Food and Agricultural Code and Sections 2300 through 2312 of the California Code of Regulations.

POST IN CONSPICUOUS PLACE

NONTRANSFERABLE

STATE OF IOWA

DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

FEE\$ 10

DES MOINES

NO. PD 16573

FERTILIZER MANUFACTURER/DEALER LICENSE

CENERGY USA INC
11500 N RODNEY FARHAM 9
LITTLE ROCK AR 72262-0000

THE AFORESAID, HAVING DEPOSITED THE REQUIRED FEE, IS HEREBY GRANTED THE ABOVE LICENSE PURSUANT TO CHAPTER 200, CODE OF IOWA. THIS LICENSE SHALL REMAIN IN FULL FORCE FROM THE DATE OF ISSUE UNTIL ITS EXPIRATION DATE, UNLESS REVOKED OR SUSPENDED FOR CAUSE BY THE SECRETARY OF AGRICULTURE FOR NONCOMPLIANCE WITH CHAPTER 200 CODE OF IOWA OR RULES PROMULGATED PURSUANT THERETO.

DATE OF ISSUE October 05, 2015
EXPIRES June 30, 2016



SECRETARY OF AGRICULTURE
AND LAND STEWARDSHIP

For locations:
16574
CENERGY USA INC
1600 UNIVERSAL RD
COLUMBUS OH 43207-0000

Subject: AgLicense Online Activity Confirmation
From: AgLicense-noreply@state.co.us (AgLicense-noreply@state.co.us)
To: Ted@Cenergy.us;
Date: Tuesday, January 19, 2016 10:03 AM



Your AgLicense order has been processed successfully. The transaction order number is **9DE434F44500CF56A4F2C33BB0038503** for a total of **\$80.00 + \$0.00 Service Fee.**

Below is a summary of your order. This document serves as a record for your transaction.

Cart Items Processed

Item	Amount
MAGIC DIRT - Mfr ID: 1 - Grade: 1.15-0.3-0.35 - Label Mfr: CENERGY	\$0.00
Magic Dirt June 2015 revision - Grade: 1.15-0.3-0.35	\$80.00
Total	\$80.00

Transaction Date:
Credit Card: -
Confirmation #:
Total amount charged: \$80.00

To log on visit the AgLicense homepage and enter your username and password in the login area.

Thank you,
 AgLicense Administrator

© Copyright 2016, Colorado Department of Agriculture

Attachments

- Untitled2.2 (7.95KB)

Registered Fertilizer Products in Indiana as of September 28, 2015 ordered by Grade

CENERGY USA INC

11500 N RODNEY PARHAM RD STE 9

LITTLE ROCK, AR

72212

LARGE PACKAGE PRODUCTS

Grade (N-P-K)	Product Name	Micro-Nutrient	Submitter Company	Expiration year
1.05 - 0.3 - 0.35	MAGIC DIRT POTTING SOIL	NONE		2016

SMALL PACKAGE PRODUCTS

Grade (N-P-K)	Product Name	Micro-Nutrient	Submitter Company	Expiration year
1.05 - 0.3 - 0.35	MAGIC DIRT POTTING SOIL	NONE		2016

Ohio Department of Agriculture
Division of Plant Industry Pesticide Regulation Section
 8995 East Main Street Reynoldsburg, Ohio 43068

CERTIFICATE FOR REGISTRATION OF SPECIALTY PRODUCTS

WHEN SIGNED UNDER THE AUTHORITY OF THE OHIO DEPARTMENT OF AGRICULTURE, THIS CERTIFIES THAT THE PRODUCT NAMES OR BRANDS OF SPECIALTY PRODUCTS NAMED BELOW HAVE BEEN DULY REGISTERED, REGISTRATION FEES PAID, AND THEREFORE THEIR SALE AND DISTRIBUTION IN OHIO IS AUTHORIZED DURING THE PERIOD FROM 12/1/2015 THROUGH 11/30/2016.

CENERGY USA INC
 11500 N RODNEY PARHAM RD, #9
 LITTLE ROCK, AR 72212

SUBMITTED FOR
 CENERGY USA INC
 PO BOX 241522
 LITTLE ROCK, AR 72223

DATE OF REGISTRATION 10/30/2015

FEE PAID \$50.00

Ohio Registration Number	Product Name and Brand (as on label)	N - P - K
289023	MAGIC DIRT POTTING SOIL	1.15-0.3-0.35

Products Registered: 1

WYOMING DEPARTMENT OF AGRICULTURE
Cheyenne, WY 82002

Registering Company Number: 11900792

Amount

\$75.00

OFFICIAL RECEIPT

CENERGY USA, INC
11500 RODNEY PARHAM RD # 9

Phone 5012253352
Email TED@CENERGY.US

LITTLE ROCK, AR 72212
Attn. R. TED SNIEGOCKI

Date Paid: 10/6/2015
BatchNo: 20

Certificate of Registration

Expiration Date

12/31/2016

is authorized to manufacture, deliver or sell in Wyoming the products listed below. Registration is not an endorsement or approval by the Department of Agriculture of any product or claim made for it. No reference may be made to registration in labeling or advertisements. Registration may be canceled after hearing at any time for just cause. The composition of each product and the label used on it must be the same as those submitted by the registrant. A certificate of registration may not be transferred if there is a change in business ownership but a new application and fee are necessary.

FERTILIZER

0416326

MAGIC DIRT

Products Registered

1

Licensing and Registration

8. The Chemical Abstract Service (CAS) number or other product numbers of the substance and labels of products that contain the petitioned substance

The petitioned substance, anaerobically digested fiber, does not have a CAS or other product number. The labels of products that contain the anaerobic digestate include:



9. The substance’s physical properties and chemical mode of interactions

a. The potential of the substance for detrimental chemical interactions with other materials used in organic farming systems

None

b. The toxicity and mode of action of the substance and of its breakdown products or any contaminants, and their persistence and areas of concentration in the environment

None

c. The probability of environmental contamination during manufacture, use, misuse or disposal of the substance

None

d. The effect of the substance on human health

No negative impact

e. The effects of the substance on biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crops, and livestock

Positive. It has already been proven beneficial to the agroecosystem

6. The alternatives to using the substance in terms of practices or other available materials

None known

7. Its compatibility with a system of sustainable agriculture

Already proven to be compatible

10. Safety information including a Material Safety Data Sheet (MSDS) and a substance report from the National Institute of Environmental Health Studies

There is no MSDS or substance report for anaerobic digestate from a two stage mixed plug-flow digester.

11. Research information about the substance

Recovering Value From Waste. EPA AgSTAR
https://www.epa.gov/sites/production/files/2014-12/documents/recovering_value_from_waste.pdf

Replacing inorganic fertilizer with anaerobic digestate may maintain agricultural productivity at less environmental cost
<http://onlinelibrary.wiley.com/doi/10.1002/jpln.201200214/abstract>

Greenhouse Gas Emissions from Storage and Field Application of Anaerobic Digestate. ASA, CSSA, SSSA International Annual Meeting
<https://scisoc.confex.com/scisoc/2014am/webprogram/Paper85874.html>
Digestate Utilization in the US. BioCycle
<https://www.biocycle.net/2012/01/12/digestate-utilization-in-the-u-s/>

Utilisation of digestate from Biogas Plants as biofertilizer. IEA Bioenergy
http://www.iea-biogas.net/files/daten-redaktion/download/publi-task37/Digestate_Brochure_Revised_12-2010.pdf

Effects of anaerobic digestion on digestate nutrient availability and crop growth: A review. Institute of Crop Science, Fertilisation & Soil Matter Dynamics, Universität Hohenheim,

Stuttgart, Germany

https://www.researchgate.net/profile/Kurt_Moeller/publication/232322621_Effects_of_anaerobic_digestion_on_digestate_nutrient_availability_and_crop_growth_a_review_Eng_Life_Sci/links/546d89230cf2193b94c586e3.pdf

Using quality digestate to benefit crops. WRAP

<https://www.nutrientmanagement.org/using-quality-digestate-to-benefit-crops/>

Lifecycle greenhouse gas (GHG) analysis of an Anaerobic Co-digestion Facility Processing Dairy Manure and Industrial Food Waste in NY State.

<http://articles.extension.org/pages/72758/lifecycle-greenhouse-gas-ghg-analysis-of-an-anaerobic-co-digestion-facility-processing-dairy-manure->

Digestate – Maximizing its value and uses. Canada Ministry of Agriculture, Food and Rural Affairs

http://www.compost.org/conf2015/Anaerobic_Digestion_and_Biogas-Digestion_Anaerobie_et_Biogaz/Digestate-Maximizing_its_Value_and_Use_Sept_18_2018.pdf

Transformation and Agronomic Use of Nutrients From Digester Effluent

<http://articles.extension.org/pages/67900/transformation-and-agronomic-use-of-nutrients-from-digester-effluent>

Digestates: Realising the fertiliser benefits for crops and grassland. WRAP

<http://www.wrap.org.uk/sites/files/wrap/Farmer%20guidance%20final%20-%20Cymru.pdf>

Recovering Value From Waste. EPA AgSTAR

https://www.epa.gov/sites/production/files/2014-12/documents/recovering_value_from_waste.pdf

Replacing inorganic fertilizer with anaerobic digestate may maintain agricultural productivity at less environmental cost

<http://onlinelibrary.wiley.com/doi/10.1002/jpln.201200214/abstract>

Greenhouse Gas Emissions from Storage and Field Application of Anaerobic Digestate. ASA, CSSA, SSSA International Annual Meeting

<https://scisoc.confex.com/scisoc/2014am/webprogram/Paper85874.html>

Digestate Utilization in the US. BioCycle

<https://www.biocycle.net/2012/01/12/digestate-utilization-in-the-u-s/>

Utilisation of digestate from Biogas Plants as biofertilizer. IEA Bioenergy

http://www.iea-biogas.net/files/daten-redaktion/download/publi-task37/Digestate_Brochure_Revised_12-2010.pdf

Effects of anaerobic digestion on digestate nutrient availability and crop growth: A review. Institute of Crop Science, Fertilisation & Soil Matter Dynamics, Universität Hohenheim,

Stuttgart, Germany

https://www.researchgate.net/profile/Kurt_Moeller/publication/232322621_Effects_of_anaerobic_digestion_on_digestate_nutrient_availability_and_crop_growth_a_review_Eng_Life_Sci/links/546d89230cf2193b94c586e3.pdf

Using quality digestate to benefit crops. WRAP

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Lifecycle greenhouse gas (GHG) analysis of an Anaerobic Co-digestion Facility Processing Dairy Manure and Industrial Food Waste in NY State.

<http://articles.extension.org/pages/72758/lifecycle-greenhouse-gas-ghg-analysis-of-an-anaerobic-co-digestion-facility-processing-dairy-manure->

Digestate – Maximizing its value and uses. Canada Ministry of Agriculture, Food and Rural Affairs

http://www.compost.org/conf2015/Anaerobic_Digestion_and_Biogas-Digestion_Anaerobie_et_Biogaz/Digestate-Maximizing_its_Value_and_Use_Sept_18_2018.pdf

Transformation and Agronomic Use of Nutrients From Digester Effluent

<http://articles.extension.org/pages/67900/transformation-and-agronomic-use-of-nutrients-from-digester-effluent>

Digestates: Realising the fertiliser benefits for crops and grassland. WRAP

<http://www.wrap.org.uk/sites/files/wrap/Farmer%20guidance%20final%20-%20Cymru.pdf>

12. Petition Justification Statement

Anaerobic digestate is *not* the same as raw manure, and should not be under the same POS classification. Properly processed plant and animal materials in a two stage mixed plug-flow anaerobic digester produces a virtually pathogen free organic digestate, which is not compost. The extremely long (21 day) retention at a mesophilic level provides more complete digestion and pathogen kill than composting at a minimum temperature of either 150° F (66° C) for at least one hour or 165° F (74° C), and are dried to a maximum moisture level of 12%; or an equivalent heating and drying process could be used. The petitioner submits that processing of plant and animal materials in a two stage mixed plug-flow anaerobic digester is an equivalent heating process whereby the drying to 12% moisture content is not necessary to achieve pathogen kill.

In addition, the process provides a number of environmental benefits. A substantial benefit of anaerobic digestion is that it is a very unique natural process and, if properly engineered and managed, can provide significant environmental advantages. An AD system effectively controls odors because it provides a controlled environment within which the natural, soluble products (mainly volatile fatty acids) are contained for the methanogenic bacteria to convert into biogas: the natural organic material present in various waste streams is what produces the recognizable odor resulting from the breakdown of the waste by

naturally occurring bacteria. This same natural organic material is bioconverted in the AD from complex material to volatile fatty acids to acetic acid to methane and CO₂. In a 12-month study of this AD system by the US EPA – AgStar program in 2004, it was verified that volatile fatty acids were reduced by 95-97% during the AD process. The AgStar study also confirmed that the digester, with the retention time at 101° F (38° C) operating temperature, has one of the highest destruction rates for pathogens during the waste processing.

AgStar Testing Results Summary

DIGESTER INFLUENT				
PARAMETERS	11/3/04	11/16/04	11/30/04	12/28/04
Fecal Streptococcus (col/g WWB)	380,000,000	110,000,000	64,000,000	480,000,000
Fecal Coliform (col/g WWB)	350,000,000	170,000,000	130,000,000	160,000,000
Total Phosphorous (mg/Kg WWB)	950	780	910	750
Total Solids (%)	10.9	9.8	9.3	9.3
Volatile Fatty Acids (mg/Kg WWB)	7,520	7,060	6,000	7,140
DIGESTER EFFLUENT				
PARAMETERS	11/3/04	11/16/04	11/30/04	12/28/04
Fecal Streptococcus (col/g WWB)	8,700,000	6,000,000	1,700,000	34,000,000
Fecal Coliform (col/g WWB)	660,000	370,000	380,000	240,000
Total Phosphorous (mg/Kg WWB)	780	840	860	550
Total Solids (%)	6.4	6.5	6.4	6.1
Volatile Fatty Acids (mg/Kg WWB)	300	282	321	259
% DWB = (mg/Kg DWB) / 10,000 mg/Kg = ppm				

The attached report from Waypoint Analytical confirms the pathogen reduction below detectable levels.

The petitioner requests consideration of a separate classification for this fiber without restrictions.



Anaheim office
Lab No's: 16-007-0008 & 16-028-0002
March 30, 2015

Cenergy USA, Inc.
11500 Rodney Pasham Rd., Suite #9
Little Rock, AR 72212

Attn: Ted Sniegocki / Bob Joblin

MAGIC DIRT MICROBIOLOGY

In January of this year we analyzed "Magic Dirt Garden Soil" for the presence of Fecal Coliform via method SM-9221E Multi-Tube Fermentation technique with an method quantitation lime (MQL) of 3.0 most probable number per gram (mpn/g) of 3.0.

Also in January we analyzed "Magic Dirt Garden Soil" for the presence of E. coli 0157:H7 and Salmonella via method AOAC 996.09 Visual Immunoprecipitate Assay. The E. Coli 0157:H7 results are presented as either positive (meaning the organism was detected in the sample) or negative (meaning the organism was not detected sample). Salmonella is reported in most probable number per 4 grams of material (mpn/4g) with an MQL of 1.1.

The results of those analyses are attached here for reference. Based on the methods employed Fecal Coliform, E. coli, and Salmonella were below detectable limits.

If we can be of any further assistance, please feel free to contact us.

A handwritten signature in black ink, appearing to read "Jason Gihring", with a stylized flourish at the end.

Jason Gihring

Emailed: ted@cenergy.us / bob@cenergy.us

06229
 Cenergy USA, Inc.
 11500 Rodney Pasham Rd., Suite #9
 Little Rock , AR 72212

Project Magic Dirt Garden Soil 1-6-16
 Information :

Report Date : 1/13/2016

Report Number : **16-007-0008**

REPORT OF ANALYSIS

Received : 1/7/2016

Lab No : **82517**
 Sample ID : **Magic Dirt Garden Soil 1-6-16**

Matrix: **Solids**
 Sampled:

Analytical Method: AOAC 996.09 **Prep Batch(es):** 01/01/00 00:00
Prep Method:

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Rapid method E-coli O157:H7	Negative	Pos/Neg		1	01/11/16 14:10	DB2	L270548 ~
Salmonella (MPN)	<1.1	mpn/4g	1.1	1	01/11/16 14:10	DB2	L270554

Qualifiers/ Definitions				
*	Outside QC limit	B	Analyte detected in blank	
C	GCMS Confirmation Analysis	E	Exceeds calibration range	
g	GGA outside QC limits	H	Beyond holding time	
J	Estimated Value	M	Minimum value	
NA	Not on Scope of Accreditation	NC	Not confirmed	
Q	Surrogate Recovery	T	Sample exhibits toxicity	
U	Unconfirmed			

06229
 Cenergy USA, Inc.
 11500 Rodney Pasham Rd., Suite #9
 Little Rock, AR 72212

Project Magic Dirt Garden Soil
 Information : 1-27-16

Report Date : 2/1/2016

Report Number : 16-028-0002

REPORT OF ANALYSIS

Received : 1/28/2016

Lab No : 82847
 Sample ID : Magic Dirt Garden Soil 1/27/16

Matrix: Solids
 Sampled:

Analytical Method: SM-9221E Prep Batch(es): 01/01/00 00:00

Prep Method:

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Fecal Coliform MPN (Confirmed)	<3.0	MPN/g	3.0	1	01/28/16 16:29	DB2	L272800

**Qualifiers/
 Definitions**

*	Outside QC limit	B	Analyte detected in blank
C	GCMS Confirmation Analysis	E	Exceeds calibration range
g	GGA outside QC limits	H	Beyond holding time
J	Estimated Value	M	Minimum value
NA	Not on Scope of Accreditation	NC	Not confirmed
Q	Surrogate Recovery	T	Sample exhibits toxicity
U	Unconfirmed		