SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Mesocarbon Microbeads (MCMB) powder
MANUFACTURER: MSE Supplies LLC
DIVISION: MSE Supplies Battery Division
ADDRESS: MSE Supplies LLC, 4400 E Broadway Blvd, Suite 600, Tucson AZ 85711 USA
PHONE: +1-520-789-6673
EMAIL: Info@msesupplies.com
Non-emergency assistance: 1-888-525-3070
CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300
Issue Date: 09/12/2017

SECTION 2: INGREDIENTS

Substances
Formula: C
Molecular weight: 12.01 g/mol
CAS-No.: 7782-42-5
EC-No.: 231-955-3

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Powder
Odor, Color, Grade: odorless, black powder
General Physical Form: Solid
Immediate health, physical, and environmental hazards: This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Skin Contact:
Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

SECTION 4: FIRST AID MEASURES
4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

**Inhalation:** Remove person to fresh air. If signs/symptoms develop, get medical attention.

**If Swallowed:** Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

SECTION 5: FIRE FIGHTING MEASURES

- **Extinguishing media**
  - Suitable extinguishing media
  - Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
  - Special hazards arising from the substance or mixture
  - Carbon oxides
  - Advice for firefighters
  - Wear self-contained breathing apparatus for firefighting if necessary.

- **Further information**
  - No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

**Small Spill**
Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill**
Use a shovel to put the material into a convenient waste disposal container. Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

6.2. Environmental precautions
Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING
Avoid eye contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.
7.2 STORAGE
Store the material in a tightly closed container, and place in a dry and well-ventilated place. Avoid moisture.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
Avoid eye contact.
The following eye protection(s) are recommended: Safety Glasses with side shields

8.2.2 Skin Protection
Avoid skin contact. Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

8.2.3 Respiratory Protection
Dust respirator. Be sure to use an approved/certified respirator or equivalent.

8.2.4 Prevention of Swallowing
Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Do not ingest.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Specific Physical Form</td>
<td>Powder</td>
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<tr>
<td>Odor, Color, Grade</td>
<td>odorless, black powder</td>
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<tr>
<td>General Physical Form</td>
<td>Solid</td>
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<tr>
<td>Autoignition temperature</td>
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<tr>
<td>Flash Point</td>
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<td>Flammable Limits(UEL)</td>
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<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Percent volatile</td>
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<tr>
<td>VOC Less H2O &amp; Exempt Solvents</td>
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</tr>
<tr>
<td>Viscosity</td>
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</table>
SECTION 10: STABILITY AND REACTIVITY

Stability: No data available.

Materia

Is and Conditions to Avoid: No data available

Conditions to avoid: No data available

Materials to avoid: No data available

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
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</tbody>
</table>

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - female - > 2,000 mg/kg
(OECD Test Guideline 423)
LC50 Inhalation - Rat - male and female - 4 h - 2,000 mg/m3
(OECD Test Guideline 403)

Dermal:
No data available

Skin corrosion/irritation
Skin - Rabbit

Result: No skin irritation
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit

Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitisation
- Mouse

Did not cause sensitisation on laboratory animals.
(OECD Test Guideline 429)

Germ cell mutagenicity
in vitro assay
S. typhimurium

Result: negative
Carcinogenicity
IARC:
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP:
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available
No data available
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available

Additional Information
Repeated dose toxicity - Rat - male - Feed - No observed adverse effect level - 813 mg/kg
RTECS: MD9659600

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity
Toxicity to fish
semi - static test LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to algae
static test EC50 - Pseudokirchneriella subcapitata - > 100 mg/l - 72 h
(OECD Test Guideline 201)

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects
No data available
SECTION 13: DISPOSAL CONSIDERATIONS

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: TRANSPORT INFORMATION

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

SECTION 15: REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
No SARA Hazards

Massachusetts/Pennsylvania/New Jersey Right To Know Components
Graphite
CAS-No.: 7782-42-5
Revision Date: 1989-08-11
California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 1  Flammability: 1  Reactivity: 0  Special Hazards: None

Disclaimer: MSE Supplies LLC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. MSE Supplies LLC makes no warranties, expressed or implied, as to the accuracy of the information contained herein. MSE Supplies cannot anticipate all conditions under which this information and its products
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