Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Graphite
Part No: BCX-XXX
Brand: Electrodesandmore
Supplier: Battery Consulting
Address: 4020 Christopher way
Plano TX 75024
USA
Telephone: +1 877-394-3941
Fax: +1 208-955-4890
Emergency Phone #: +1 972-636-1722
Preparation Information: Battery Consulting
Product Safety -

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Irritant

GHS Classification
Eye irritation (Category 2A)
Specific target Organ toxicity – single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram

Signal word
Warning
Hazard statement(s)
H319 Causes serious eye irritation
H335 May cause respiratory irritation.

Precautionary statement(s)
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P305 +P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification
Health hazard: 2
Flammability: 0
Physical hazards: 0

NFPA Rating
Health hazard: 2
Fire: 0
Reactivity Hazard: 0

Potential Health Effects
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes eye irritation.
Ingestion: May be harmful if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Formula: C
Molecular Weight: 12.01g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No</td>
<td>7782-42-5</td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-955-3</td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a Physician.

5. FIREFIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self contained breathing apparatus for firefighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. Carbon oxides.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Components with workplace control parameters.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No</th>
<th>Value</th>
<th>Control Parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>TWA</td>
<td>15 Million particles/cubic foot.</td>
<td>USA. Occupational Exposure Limits (OSHA) – Table Z-3 Mineral Dusts.</td>
</tr>
<tr>
<td>Remarks</td>
<td>Millions of particles / cubic foot of air, based on impinger samples counted by light-field techniques, mppcf X 35.3 = million particles per cubic meter = particles per c.c</td>
<td>TWA</td>
<td>2.5mg/m3</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
</tr>
<tr>
<td></td>
<td>Also see specific listing for Graphite (synthetic).</td>
<td>TWA</td>
<td>10mg/m3</td>
<td>USA. OSHA – TABLE Z-1 Limits for Air Contaminants – 1910.1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5mg/m3</td>
<td>USA. OSHA – TABLE Z-1 Limits for Air</td>
</tr>
<tr>
<td>Contaminants – 1910.1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TWA</strong></td>
<td>15mg/m³</td>
<td>USA. Occupational Exposure Limits (OSHA)- Table Z-1 Limits for Air Contaminants</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TWA</strong></td>
<td>5mg/m³</td>
<td>USA. Occupational Exposure Limits (OSHA)- Table Z-1 Limits for Air Contaminants</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TWA</strong></td>
<td>2mg/m³</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pneumoconiosis**

| **TWA** | 2.5mg/m³ | USA. OSHA – TABLE Z-1 Limits for Air Contaminants – 1910.1000 |

---

**Personal protective equipment**

**Respiratory protection**
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Immerse Protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: >480 min

Splash protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 30 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Eye protection**
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**
Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- **Form**: Powder
- **Color**: grey

**Safety data**
- **pH**: No data available

**Melting point/freezing point**
- Melting point/range: 3,652 – 3,697°C (6,606 – 6,687°F) – lit.

**Boiling point**: no data available

**Flash point**: no data available

**Ignition temperature**: no data available

**Auto ignition Temperature**: no data available

**Lower explosion limit**: no data available

**Upper explosion limit**: no data available

**Vapor pressure**: no data available

**Density**: 1.900g/cm³

**Water solubility**: no data available

**Partition coefficient: n-octanol/water**: no data available

**Relative vapor Density**: no data available

**Odor**: no data available

**Odor Threshold**: no data available

**Evaporation rates**: no data available

### 10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
No data available

**Conditions to avoid**
No Data Available

Materials to avoid
Strong oxidizing agents.

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. Carbon Oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50                   No data available
Inhalation LC50             No data available
Dermal LD50                 No data available

Other information on acute toxicity  No data available

Skin corrosion/irritation  No data available
Serious eye damage/eye irritation  No data available
Respiratory or skin sensitization No data available
Germ cell mutagenicity  No data available

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 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

Teratogenicity  no data available

Specific target organ toxicity - single exposure (Globally Harmonized System):
Inhalation – May cause respiratory irritation

Specific target organ toxicity - repeated exposure (Globally Harmonized System)  no data available

Aspiration hazard  no data available
Potential health effects

Inhalation  May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion  May be harmful if swallowed.
Skin  May be harmful if absorbed through skin. Causes skin irritation.
Eyes  Causes eye irritation.

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

Synergistic effects  no data available

Additional Information
RTECS: MD9659600

12. ECOLOGICAL INFORMATION

Toxicity  no data available
Persistence and degradability  no data available
Bioaccumulative potential  no data available
Mobility in soil  no data available
PBT and vPvB assessment  no data available
Other adverse effects  no data available

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US) Not dangerous goods.
IMDG  Not dangerous goods.
IATA  Not dangerous goods.

15. REGULATORY INFORMATION

OSHA Hazards
Irritant

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components
SARA 313: 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
Acute Health Hazard

Massachusetts Right To Know Components
Graphite  CAS.No: 7782-42-5 Revision Date 1989-08-11

Pennsylvania Right To Know Components
Graphite  CAS.No: 7782-42-5 Revision Date 1989-08-11

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.

16. OTHER INFORMATION

Further information

Copyright 2013 Battery Consulting.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Battery Consulting and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.electrodesandmore.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.