1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer
Graphite Sales, Inc.
16710 West Park Circle Drive
Chagrin Falls, OH 44023

Contact: Graphite Sales, Inc.
Phone: 1-800-321-4147 // 1-440-543-8221
Fax: 1-440-543-5183
Web: www.graphitesales.com

Product Name: Synthetic Graphite
Revision Date: 3/14/2016
Version: 6
SDS Number: 200
Common Name: Carbon, Graphite
CAS Number: 7782-42-5
Chemical Formula: C
Synonyms: Graphite
Product Use: High Temperature Applications, Friction Reduction, Lubrications, Coatings, and Conductive Additive
Emergency Phone: 1-440-543-8221 (Continental United States)

2 HAZARDS IDENTIFICATION

NFPA: H1/F0/PH0
Health = 1, Fire = 0, Reactivity = 0

PERSONAL PROTECTION INDEX

Health | 1
Fire     | 0
Reactivity | 0

Personal Protection
E | Safety Glasses, Gloves, Dust Respirator

NFPA FIRE HAZARD

HEALTH | 1
FLAMMABILITY | 0
PHYSICAL HAZARDS | 0

HMIS III

A
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Contact your supervisor or S.O.P for “SPECIAL” handling instructions.
GHS Signal Word: WARNING

GHS Hazard Pictograms:

GHS Classifications:
- Health, Skin corrosion/irritation, 3
- Health, Serious Eye Damage/Eye Irritation, 2 B
- Health, Specific target organ toxicity - Single exposure, 3

GHS Precautionary Statements:
- P261 - Avoid breathing dust produced while using this product.
- P264 - Wash face, hands and any exposed skin thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P281 - Use personal protective equipment as required.
- P285 - In case of inadequate ventilation wear respiratory protection.
- P304+341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+351+338 - IF IN EYES: Do NOT rub. Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P337+313 - If eye irritation persists: Get medical advice/attention.
- P342 - If experiencing respiratory symptoms: Get medical advice/attention.
- P402 - Store in a dry place.
- P501 - Dispose of contents/container to an approved waste disposal plant.

Additional Hazard Statements:
- May form combustible dust concentrations in air.

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Cas #</th>
<th>Percentage</th>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7782-42-5</td>
<td>100%</td>
<td>Synthetic Graphite</td>
</tr>
</tbody>
</table>

### 4 FIRST AID MEASURES

**Inhalation:** Blow nose to remove substance from nasal passages. Give oxygen or artificial respiration if needed. If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.

**Skin Contact:** Generally this product does not irritate the skin except through mechanical abrasion. As a precaution, take off contaminated clothing and shoes immediately. Promptly flush skin with water for at least 15 minutes to
ensure all chemical is removed. If reddening develops and/or persists, obtain medical attention.

**Eye Contact:** Do NOT rub eyes. Flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Remove contact lenses if present and easy to do so. If eye irritations persists, obtain medical attention.

**Ingestion:** Generally this product does not irritate through ingestion. Rinse mouth with water. Give 3-4 glasses of water or milk to dilute stomach contents. Do NOT induce vomiting. If vomiting occurs, give more water or milk. Never give anything by mouth to an unconscious person. If symptoms develop and/or persist, obtain medical attention.

**Most important symptoms and effects, both acute and delayed:**
The most important known symptoms and effects are described in the labeling (see Section 2) and/or Section 11.

**Indication of any immediate medical attention and special treatment needed:**
No data available.

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**5 FIRE FIGHTING MEASURES**

**Flammability:** Combustible at high temperatures when finely dispersed in air.

**Flash Point:** No data available

**Flash Point Method:** DNA

**Burning Rate:** No data available

**Autoignition Temp:** 300 °C (572 °F) (air method)

**LEL:** Not determined

**UEL:** Not determined

**Extinguishing Media:**
- Water Spray
- Carbon Dioxide
- Alcohol-Resistant Foam

**Special Hazards Arising From the Substance or Mixture:**
Carbon Oxides

**Advice for Firefighters:**
Firefighters should wear full-face, positive-pressure respirators.

**Further Information:**
If incinerated, may release toxic fumes.
Use water spray to cool unopened containers.
Do NOT use high volume water jet to extinguish fire, as the force of the water jet may cause burning powder to spread (burning powder will float).
Product has a combustible dust hazard. Take care to avoid creation of dusts while extinguishing fires.
See Section 7 for more information on safe handling.
See Section 8 for more information on personal protection equipment.
See Section 13 for disposal information.
ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Use personal protective equipment, including dust respirator.
Avoid dust formation.
Avoid breathing dust.
Keep from contacting skin or eyes.
Ensure adequate ventilation.
Evacuate personnel to safe areas.

Environmental precautions:
Prevent further release (leakage/spillage) if safe to do so.
Do not allow product to enter drains.
Do not allow to drain to environment.
Spill and release of this material to navigable water in sufficient amounts that cause sludge or emission under the water must be reported immediately to the National Response Center (800-424-8802), as required by U.S. Federal Law. Contact the Coast Guard and appropriate state and local regulatory agencies. Failure to report these spills may result in substantial civil and criminal penalties.

Methods and materials for containments and cleaning up:
Pick up and arrange disposal without creating dust.
Sweep up, shovel or collect spillage with an electrically protected vacuum cleaner equipped with HEPA (high efficiency particulate air) filtration, if possible.
If necessary, light water spray will reduce dust for dry sweeping.
Place contaminated material into suitable, closed containers for disposal.
Dispose of contaminated material according to Section 13.
After spillage has been collected, area may be flushed with water or wet-brushed.
Ensure adequate ventilation.

Reference to Other Sections:
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on proper disposal.

HANDLING AND STORAGE

Handling Precautions:
Wear protective clothing.
Avoid breathing dusts.
Avoid formation of dusts.
Avoid contact with eyes, skin, or clothing.
Keep containers closed when not in use.
Do not expose containers to open flame, excessive heat, or direct sunlight.
Do not puncture or drop containers.
Handle with care and avoid spillage on the floor.
Keep material out of reach of children.
Keep material away from incompatible materials.
Wash thoroughly after handling.
Ensure adequate ventilation.
Synthetic Graphite is a good conductor of electricity. Use caution when handling in areas where contact with electrical circuitry is possible.

Storage Requirements:
Keep container tightly closed.
Store in a dry place.
Store away from strong acids, strong oxidizing agents, chlorinated paraffins, lead oxide, manganese oxide, iron oxide, liquid oxygen, oils, chlorine trifluoride, liquid potassium, liquid rubidium, liquid caesium, potassium peroxide, fluorine, and moisture. If Synthetic Graphite contacts liquid potassium, liquid rubidium or liquid caesium at 300 °C (572 °F), intercalation compounds may be forms. These compounds may explode on contact with water or ignite in air.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

Personal Protective Equip: Eye/face protection:
When using material use safety glasses, gloves and dust respirator according to HMIS PP, E. All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection:
Handle with gloves made from PVC, butyl-rubber, neoprene, nitrile or fluorinated rubber. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact. Dispose of contaminated gloves according to applicable laws and laboratory practices.

Body Protection:
Not required. Type of protective equipment should be selected based on concentration amount and conditions of use of this material.

Respiratory protection:
Use of a dust respirator is highly recommended when using material in poorly ventilated spaces or in a manner that generates dust. For limited exposure to airborne dust use a dust mask of N95 rating or higher. For prolonged exposure, at a minimum use an air-purifying respirator with high efficiency particulate air (HEPA) filter. Full-face dust respirator may be required as backup to engineering controls when proper engineering controls are not in place to keep TLV and PEL limits below defined thresholds.

Control of environmental exposure:
Prevent leakage or spillage if safe to do so. Do not let material enter drains.

Components with workplace control parameters:

Component(s): Synthetic Graphite
CAS No(s): 7782-42-5
USA ACGIH (TWA/TLV): 2.0 mg/m³
USA NIOSH (TWA/REL): 2.5 mg/m³
USA OSHA Occupational Exposure Limits - Table Z-1 Limits for Air Contaminants (TWA): 15.0 mg/m³ (Total Dusts)
USA OSHA Occupational Exposure Limits - Table Z-1 Limits for Air Contaminants (TWA): 15.0 mg/m³ (Respirable Fraction)
USA OSHA Occupational Exposure Limits - Table Z-3 Mineral Dusts (TWA): 15.0 mppcf

* mppcf = million particles per cubic foot

Biological occupational exposure limits:
Contains no substances with biological occupational exposure limits values.

**PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance:</strong></td>
<td>Gray to black solid (powder)</td>
</tr>
<tr>
<td><strong>Physical State:</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>Odor Threshold:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Particle Size:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Spec Grav./Density:</strong></td>
<td>2.190 - 2.260 g/cm³</td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Sat. Vap. Conc.:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Boiling Point:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Flammability:</strong></td>
<td>(solid, gas): Combustible</td>
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<tr>
<td><strong>Partition Coefficient:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Vapor Pressure:</strong></td>
<td>(mm Hg @ 25 °C): Not determined</td>
</tr>
<tr>
<td><strong>pH:</strong></td>
<td>@ 100%: DNA</td>
</tr>
<tr>
<td><strong>Evap. Rate:</strong></td>
<td>(nBuAc = 1): DNA</td>
</tr>
<tr>
<td><strong>Molecular weight:</strong></td>
<td>12.01 g/mol</td>
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<td><strong>Decomp Temp:</strong></td>
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<tr>
<td><strong>Odor:</strong></td>
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<tr>
<td><strong>Molecular Formula:</strong></td>
<td>C</td>
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<td><strong>Softening Point:</strong></td>
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<td><strong>Percent Volatile:</strong></td>
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<tr>
<td><strong>Heat Value:</strong></td>
<td>DNA</td>
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<tr>
<td><strong>Freezing/Melting Pt.:</strong></td>
<td>3652 - 3697 °C (6606 - 6687 °F)</td>
</tr>
<tr>
<td><strong>Flash Point:</strong></td>
<td>DNA</td>
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<tr>
<td><strong>Octanol:</strong></td>
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<tr>
<td><strong>Vapor Density:</strong></td>
<td>(air = 1): Not determined</td>
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<tr>
<td><strong>VOC:</strong></td>
<td>DNA</td>
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<tr>
<td><strong>Bulk Density:</strong></td>
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<tr>
<td><strong>Auto-Ignition Temp:</strong></td>
<td>300 °C (572 °F) (air method)</td>
</tr>
<tr>
<td><strong>UFL/LFL:</strong></td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**STABILITY AND REACTIVITY**

- **Stability:** Product is stable under normal conditions.
- **Conditions to Avoid:** Incompatibilities, flames, ignition sources, moisture, and accumulation of dust.
- **Materials to Avoid:** Strong acids, strong oxidizing agents, chlorinated paraffins, lead oxide, manganese oxide, iron oxide, liquid oxygen, oils, chlorine trifluoride, liquid potassium, liquid rubidium, liquid caesium, potassium peroxide, fluorine, and moisture.

  If Synthetic Graphite contacts liquid potassium, liquid rubidium or liquid caesium at 300 °C (572 °F), intercalation compounds may be forms. These compounds may explode on contact with water or ignite in air.

- **Hazardous Decomposition:** Carbon Oxides.
- **Hazardous Polymerization:** Will not occur.

**TOXICOLOGICAL INFORMATION**

- **Component(s):** Synthetic Graphite
- **CAS No(s):** 7782-42-5

- **Acute Toxicity:**
  - LD50 Oral - Rat: > 2,000 mg/kg
  - LD50 Inhalation - Rat: 2,000 mg/m³ (4 h)

- **Skin Corrosion/Irritation:** Mechanical abrasion may cause skin irritation.

- **Serious Eye Damage/Eye Irritation:** Mechanical abrasion causes eye irritation.

- **Respiratory or Skin Sensitation:** Mouse skin - Did not cause sensitisation.

- **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 a carcinogen or potential 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 carcinogen or potential 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.

Specific Target Organ Toxicity - Single Exposure: Respiratory system - May cause respiratory irritation.

Specific Target Organ Toxicity - Repeated Exposure: No data available.

Aspiration Hazard: No data available.

Additional Information:
Component: Synthetic Graphite; RTECS: MD9659600

ECOLOGICAL INFORMATION

Component(s): Synthetic Graphite
CAS No(s): 7782-42-5

Toxicity:

Toxicity to fish:
LC50 - Danio rerio (Zebra Fish): > 100 mg/l (96 h)

Toxicity to daphnia and other aquatic invertebrates:
EC50 - Daphnia magna (Water Flea): > 100 mg/l (48 h)

Toxicity to algae:
EC50 - Pseudokirchneriella subcapitata (Green Algae): > 100 mg/l (72 h)

Persistence and Degradability:
No data available.

Bioaccumulative potential:
No data available.

Mobility in Soil:
Not required/conducted.

Results of PBT and vPvB assessment:
Not required/conducted.

Other Adverse Effects:
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
DISPOSAL CONSIDERATIONS

Product: Hazardous wastes shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution, release into the environment or damage to people and animals. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

TRANSPORT INFORMATION

DOT (US)
Non-regulated material, solid

IMDG
Non-regulated material, solid

IATA
Non-regulated material, solid

REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Synthetic Graphite (7782425 100%) MASS, NJHS, OSHAWAC, PA, TSCA, TXAIR

REGULATORY KEY DESCRIPTIONS

MASS = MA Massachusetts Hazardous Substances List
NJHS - New Jersey Right to Know Hazardous Substances
OSHAWAC = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level
Disclaimer:

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material in any process. The information set forth herein is furnished free of charge and is based on technical data that Graphite Sales, Inc. believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside of Graphite Sales, Inc.'s control, Graphite Sales, Inc. makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe upon, any patents.

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