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: Baked Carbon / Calcined Petroleum Coke
Revision Date: 3/14/2016
Version: 7
SDS Number: 200C
Common Name: Carbon, Petroleum Coke
CAS Number: 7440-44-0, 64743-05-1, 64741-79-3
Chemical Formula: C
Synonyms: Carbon, Pet Coke
Product Use: High Temperature Applications, Friction Products, or Fuel
Emergency Phone: 1-440-543-8221 (Continental United States)

2. HAZARDS IDENTIFICATION

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

PERSONAL PROTECTION INDEX

<table>
<thead>
<tr>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
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<tr>
<td>1</td>
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</table>

PERSONAL PROTECTION
E | Safety Glasses, Gloves, Dust Respirator

CONTACT YOUR SUPERVISOR OR S.O.P. FOR "SPECIAL" HANDLING INSTRUCTIONS

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Additional information
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 Phrases:
- H316 - Causes mild skin irritation
- H320 - Causes eye irritation
- H335 - May cause respiratory irritation

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.

### COMPOSITION/INFORMATION ON INGREDIENTS

**Ingredients:**

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Percentage</th>
<th>Chemical Name</th>
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<tr>
<td>7440-44-0</td>
<td></td>
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<tr>
<td>64743-05-1</td>
<td>100%</td>
<td>Carbon, Petroleum Coke</td>
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<tr>
<td>64741-79-3</td>
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</tbody>
</table>
**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.

**FIRE FIGHTING MEASURES**

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

**Flash Point:**
- > 93 °C (200 °F)

**Flash Point Method:** Open Cup

**Burning Rate:** No data available

**Autoignition Temp:**
- > 140 °C (284 °F)

**LEL:**
- 375 g/m3

**UEL:** Not determined

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

**Special Hazards Arising From the Substance or Mixture:**
- Carbon Oxides
- Reactive Hydrocarbons
- Sulfor Oxides (SOx)

**Advice for Firefighters:**
Firefighters should wear full-face, positive-pressure respirators.
It may not be obvious that carbon/pet coke is burning unless the material is stirred and sparks are apparent. Carbon/Pet Coke that has been on fire should be observed closely for at least forth-eight (48) hours to ensure no smoldering material is present.

**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 results 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. Carbon/Pet Coke is a mild conductor of electricity. Use caution when handling in areas where contact with electrical circuitry is possible. Avoid contact with molten metal if material is wet.

Storage Requirements: Keep container tightly closed. Store in a dry place. Store away from strong oxidizing agents (fluorine, chlorine trifluoride, potassium peroxide, etc.).

# 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): Carbon, Petroleum Coke
CAS No(s): 7440-44-0, 64743-05-1, 64741-79-3
USA ACGIH (TWA/TLV): 10 mg/m³ (Nuisance Dust)
USA OSHA Permissable Exposure Limits (PEL): 15.0 mg/m³ (Nuisance Dusts)
USA OSHA Occupational Exposure Limits - Table Z-1 Limits for Air Contaminants (TWA): 15.0 mg/m³ (Total Ducts)
USA OSHA Occupational Exposure Limits - Table Z-1 Limits for Air Contaminants (TWA): 5.0 mg/m³ (Respirable Fraction)

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

### PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Gray to black solid (dust)

**Physical State:** Solid

**Odor Threshold:** Not determined

**Particle Size:** Not determined

**Spec Grav./Density:** 2.070 g/cm³

**Viscosity:** Not determined

**Sat. Vap. Conc.:** Not determined

**Flammability:** (solid, gas): Combustible

**Partition Coefficient:** Not determined

**Vapor Pressure:** (mm Hg @ 20 °C): < 0.1

**pH:** @ 100%: DNA

**Evap. Rate:** (nBuAc = 1): DNA

**Molecular weight:** 12.01 g/mol

**Decomp Temp:** Not determined

**Odor:** Odorless

**Molecular Formula:** C

**Solubility:** Insoluble

**Softening Point:** Not determined

**Percent Volatile:** DNA

**Heat Value:** Not determined

**Freezing/Melting Pt.:** 3550 °C (6422 °F)

**Flash Point:** > 93 °C (200 °F)

**Octanol:** Not determined

**Vapor Density:** (air = 1): Not determined

**Bulk Density:** Not determined

**Auto-Ignition Temp:** > 140 °C (284 °F)

**UFL/LFL:** Not determined

### 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 oxidizing agents (fluorine, chlorine trifluoride, potassium peroxide, etc.).

**Hazardous Decomposition:** Carbon Oxides, Reactive Hydrocarbons and Sulfur Dioxide (SOx).

**Hazardous Polymerization:** Will not occur.

### TOXICOLOGICAL INFORMATION

**Component(s):** Carbon, Petroleum Coke

**CAS No(s):** 7440-44-0, 64743-05-1, 64741-79-3

**Acute Toxicity:**
- LD50 Oral - Rat: > 8,000 mg/kg
- LD50 Intravenous - Mouse: 440 mg/kg

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

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

**Respiratory or Skin Sensitation:** 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 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:
Reproductive Toxicity Subcutaneous - Rat: Effects on Fertility - Post-implantation mortality.

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: Carbon, Petroleum Coke; RTECS: FF5250100

**ECOLOGICAL INFORMATION**

Component(s): Carbon, Petroleum Coke
CAS No(s): 7440-44-0, 64743-05-1, 64741-79-3

Toxicity:

Toxicity to fish: No data available.

Toxicity to daphnia and other aquatic invertebrates: No data available.

Toxicity to algae: No data available.

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.
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.

DOT (US)
Non-regulated material, solid

IMDG
Non-regulated material, solid

IATA
Non-regulated material, solid

COMPONENT / (CAS/PERC) / CODES

*Carbon, Petroleum Coke (7440440, 64743051, 64741793  100%) NJHS, PA, TSCA

NJHS - New Jersey Right to Know Hazardous Substances
PA = PA Right-To-Know List of Hazardous Substances
TSCA = Toxic Substances Control Act

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.

Preparation Information:

GHS Conversion Services
www.ghsconversionservices.com
(414) 336-2546