

MATERIAL SAFETY DATA SHEET

Carbon, Amorphous

MSDS No.: 200c
Revision No.: 4
Date: 11/04/04

PRODUCT AND COMPANY INFORMATION – SECTION 1	
Manufacturer/Distributor:	Graphite Sales Inc.
	16710 West Park Circle Drive
	Chagrin Falls, Ohio 44023
	440-543-8221
Product Name:	Baked Carbon
Synonyms:	Carbon
Intended Use:	Composite Materials or Alloy

**FOR CHEMICAL EMERGENCY, SPILL, LEAK,
FIRE, EXPOSURE, OR ACCIDENT:**

In the continental U.S.: 440-543-8221

COMPOSITION INFORMATION – SECTION 2	
Chemical Name:	Carbon
Percent:	100
CAS Number:	7440-44-0

HAZARDS IDENTIFICATION – SECTION 3	
EMERGENCY OVERVIEW AND HAZARDS PRESENT TO MAN AND THE ENVIRONMENT	A black, odorless powder, which can burn or smolder at temperatures greater than 572°F (>300°C). Hazardous products of decomposition can include carbon monoxide, carbon dioxide, and oxides of sulfur. May cause mechanical irritation to the eyes and the respiratory tract especially at concentrations above the occupational exposure limit. Some grades of carbon black are sufficiently electrically non-conductive to allow a buildup of static charge during handling. Take measures to prevent the build up of electrostatic charge.
REGULATORY STATUS	This material is classified as hazardous under OSHA regulations.
PRIMARY ROUTES OF EXPOSURE:	In dust form, inhalation, eyes, and skin are the primary routes of exposure.
<u>POTENTIAL HEALTH EFFECTS:</u>	
Eyes:	In dust form, may be abrasive and irritating to the eyes.
Skin:	In dust form, may cause irritation through mechanical abrasion.
Inhalation:	In dust form, inhalation of high concentrations of these inert nuisance particles can result in mild irritation of the respiratory tract.
Ingestion:	May cause gastrointestinal disturbances.

MATERIAL SAFETY DATA SHEET

Carbon, Amorphous

MSDS No.: 200c
 Revision No.: 4
 Date: 11/04/04

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:	Persons with pre-existing respiratory impairments.
<u>CHRONIC HEALTH EFFECTS:</u>	
Eyes:	In dust form, may be abrasive and irritating to the eyes through mechanical abrasion.
Skin:	In dust form, may be abrasive and irritating to the skin through mechanical abrasion.
Inhalation:	In dust form, prolonged and repeated over exposure may result in benign pneumoconiosis.
Ingestion:	May cause nausea, vomiting, and diarrhea.

FIRST AID MEASURES – SECTION 4	
SEEK MEDICAL ATTENTION FOR ALL CASES OF OVEREXPOSURE.	
<u>FIRST AID MEASURES:</u>	
Eyes:	Flush thoroughly with water, taking special care to rinse under the eyelids. Do not rub the eye as mechanical abrasion due to the dust may be damaging to the cornea. If irritation persists, continue flushing for fifteen (15) minutes. If discomfort persists, seek consultation from a physician.
Skin:	Remove contaminated clothing. Wash irritated area thoroughly with water. Do not rub as mechanical abrasion due to the dust may prolong irritation to the skin.
Inhalation:	If overcome by dust concentrations, remove to a more ventilated area (fresh air).
Ingestion:	Do not induce vomiting. Seek consultation from a physician.
Instructions for Physician:	None recommended.

FIRE FIGHTING MEASURES – SECTION 5			
NFPA Classification			
<u>Health</u>	<u>Fire</u>	<u>Reactivity</u>	<u>Other</u>
1	1	0	N/A
<u>FLAMMABILITY PROPERTIES</u>			
Flash Point:	N/A	Method:	N/A
Flammability Limits: (in air % by volume)	LEL:	375 g/m3	UEL: Not Determined
<u>Autoignition Temperature:</u>			
>284°F (>140°C).			

MATERIAL SAFETY DATA SHEET

Carbon, Amorphous

MSDS No.: 200c
Revision No.: 4
Date: 11/04/04

Hazardous Combustion Products:

Products of combustion include carbon monoxide (CO), carbon dioxide (CO₂), and oxides of sulfur.

Extinguishing Media:

Use foam, carbon dioxide (CO₂), dry chemical, or water spray. A fog spray is recommended if water is used.

Prohibited Extinguishing Media:

Avoid high-pressure water stream as this may spread burning powder (burning powder will float).

Firefighting Instructions:

It may not be obvious that carbon black is burning unless the material is stirred and sparks are apparent. Carbon black that has been on fire should be observed closely for at least forty-eight (48) hours to ensure no smoldering material is present. Exposed firefighters should wear MSHA/NIOSH approved self-contained breathing apparatus with full-face mask and full protective equipment.

Unusual Fire and Explosion Hazards:

In dust form, this material is combustible at high temperatures. Dusts may form explosive mixtures in air. Material itself burns with difficulty.

ACCIDENTAL RELEASE MEASURES – SECTION 6

Personnel Precautions:

Take immediate steps to stop and contain the spill. Caution should be exercised regarding personnel safety and exposure to the spilled material. Keep unnecessary people away. Do not touch or walk through spilled material; stop leak if you can do it without risk.

Environmental Precautions:

Spill and releases of this material to navigable water in sufficient amounts that cause sludge or emulsion 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.

Cleanup Methods:

Small spills: should be vacuumed when possible. Dry sweeping is not recommended. A vacuum equipped with HEPA (high efficiency particulate air) filtration is recommended. If necessary, light water spray will reduce dust for dry sweeping.

Large spills: may be shoveled into containers. Wear appropriate personal protective equipment and respiratory protection.

MATERIAL SAFETY DATA SHEET

Carbon, Amorphous

MSDS No.: 200c
Revision No.: 4
Date: 11/04/04

HANDLING & STORAGE – SECTION 7	
Handling:	In dust form, handlers should avoid excess dust generation during the handling and contact of this material.
Storage:	In dust form, this material should be stored outdoors with proper provisions for containment or in ventilated indoor areas equipped to confine dusts.
Specific Uses:	Users should avoid inhalation of dust.

EXPOSURE CONTROLS / PERSONAL PROTECTION – SECTION 8		
<u>EXPOSURE CONTROLS:</u>		
<u>Exposure Limit Values:</u>		
	<u>OSHA PEL:</u>	<u>ACGIH TLV:</u>
Nuisance Dust (when in dust form)	15 mg/m ³	10 mg/m ³
<u>Engineering Controls:</u>		
Use process enclosures and/or exhaust ventilation to keep airborne dust concentrations below the occupational exposure limit.		
<u>PERSONAL PROTECTIVE EQUIPMENT:</u>		
<u>Respiratory Protection:</u>		
If exposure limits are exceeded or if irritation is experienced, NIOSH approved respiratory protection should be worn. Respiratory protection may be needed for non-routine or emergency situations.		
<u>Hand Protection:</u>		
Appropriate chemical protective gloves should be used while handling this material.		
<u>Eye/Face Protection:</u>		
Avoid eye contact with this material. Wear safety glasses or chemical goggles. Provide an eyewash station in the work area. Do not wear contact lenses when working with this substance.		
<u>Skin Protection:</u>		
Sufficient protective clothing should be worn to minimize skin exposure when handling this material. Wash contaminated clothing thoroughly before reuse.		
<u>General Hygiene Considerations:</u>		
Wash thoroughly after handling this material to prevent prolonged exposure.		
<u>Other Protective Equipment:</u>		
Depending upon conditions of use, additional protection may be necessary such as face shield, apron, arm-covers, etc.		

MATERIAL SAFETY DATA SHEET

Carbon, Amorphous

MSDS No.: 200c
Revision No.: 4
Date: 11/04/04

PHYSICAL & CHEMICAL PROPERTIES – SECTION 9	
PRODUCT:	Carbon, Amorphous
General Information:	
Appearance	Grey to black solid, may be in the form of a dust
Odor	Odorless
Important Health, Safety, and Environmental Information:	
Boiling Point	N/A
Melting Point	N/A
Flash Point	N/A
Explosive Properties	N/A
Oxidizing Properties	N/A
Specific Gravity ($H_2O = 1$)	2.07
Water Solubility	Insoluble
Partition Coefficient (<i>n</i> -octanol/water)	Not Determined
Viscosity	N/A
Vapor Pressure (<i>mm Hg</i>)	N/A
Vapor Density (<i>Air = 1</i>)	N/A
Evaporation Rate	N/A
% Volatile (<i>By Volume @ 68 °F</i>)	Not Determined

STABILITY & REACTIVITY – SECTION 10
<u>Stability:</u> This material is stable under normal conditions.
<u>Conditions to Avoid:</u> Incompatibilities with strong oxidizers. This condition is aggravated when the material is heated.
<u>Materials to Avoid:</u> Incompatibilities with strong oxidizers. This condition is aggravated when the material is heated.
<u>Hazardous Decomposition Products:</u> Carbon Monoxide, Carbon dioxide, reactive hydrocarbons, SO _x .
<u>Hazardous Polymerization:</u> Polymerization will not occur with this material.

TOXICOLOGICAL INFORMATION – SECTION 11				
<u>Type of Test</u>	<u>Route of Exposure</u>	<u>Effects</u>	<u>Species Observed</u>	<u>Dose Data</u>
LD ₅₀	Acute Oral Toxicity	Death	Rat	> 8000 mg/kg

MATERIAL SAFETY DATA SHEET

Carbon, Amorphous

MSDS No.: 200c
Revision No.: 4
Date: 11/04/04

ECOLOGICAL INFORMATION – SECTION 12

Ecotoxicity:

No effects are expected from this material due its insolubility. Insolubility leads to non-bio-availability.

Mobility:

N/A

Persistence and Degradability:

N/A

Bio-accumulative Potential:

N/A

DISPOSAL CONSIDERATION – SECTION 13

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

TRANSPORT INFORMATION - SECTION 14

DOT CLASSIFICATION:

<u>UN Number:</u>	This material is not regulated by the DOT for transportation
<u>Class:</u>	
<u>Proper Shipping Name:</u>	
<u>Packing Group:</u>	
<u>Marine Pollutant:</u>	
<u>Other Information:</u>	

IATA CLASSIFICATION:

<u>UN Number:</u>	This material is not regulated by IATA for transportation
<u>Class:</u>	
<u>Proper Shipping Name:</u>	
<u>Packing Group:</u>	
<u>Marine Pollutant:</u>	
<u>Other Information:</u>	

IMDG CLASSIFICATION:

<u>UN Number:</u>	This material is not regulated by IMDG for transportation
<u>Class:</u>	
<u>Proper Shipping Name:</u>	
<u>Packing Group:</u>	
<u>Marine Pollutant:</u>	

MATERIAL SAFETY DATA SHEET

Carbon, Amorphous

MSDS No.: 200c
Revision No.: 4
Date: 11/04/04

Other Information:	
---------------------------	--

REGULATORY INFORMATION – SECTION 15	
<u>US REGULATIONS</u>	
ACGIH	10 mg/m3 (TLV for a nuisance dust)
CAA Section 112	Not Listed
CERCLA	Not Listed
IARC	Not Listed
NTP	Not Listed
OSHA	15 mg/m3 (PEL for a nuisance dust)
SARA Title III	Not Listed
TSCA	Not Listed
<u>STATE REGULATIONS</u>	
MA Substance List	Not Listed
NJ RTK Hazardous Substance List	Not Listed
PA Hazardous Substance List	Not Listed
Canadian WHMIS	Listed

OTHER INFORMATION - SECTION 16	
Revision Number	Revision Date
4	11/04/04

To the best of our knowledge, the information contained herein is accurate. However, neither Graphite Sales Inc. nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.