

## SAFETY DATA SHEET

Product No. Carbon and Graphite Products

Issue Date (09/24/15)

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### Section 1: Product and Company Identification

**Product Name: Carbon and Graphite Products**

Synonym: Carbon/Graphite

Chemical symbol: C

**Company Name**

**Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477**

Inside USA and Canada 1-800-237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

Outside USA and Canada 1-530-243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

**CHEMTREC USA and Canada Emergency Contact Number 1-800-424-9300 24 hours a day**

**CHEMTREC Outside USA and Canada Emergency Contact Number +1-703-741-5970 24 hours a day**

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### Section 2: Hazard Identification

**Classification of the substance or mixture**

Classification: The materials contained in this product are not classified as hazardous under Globally Harmonized System of Classification and Labeling and the US OSHA Hazard Communication Standard.

GHS Pictograms: NA

GHS Categories: NA

**Label elements**

Signal word, symbols, hazard and precautionary statements: Not applicable/void, due to non-hazardous classification.

**Health Effects:**

NFPA Hazard Rating: ND

HMIS® Hazard Rating: Health: 1; Fire: 1; Physical hazard: 0

(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Results of PBT and vPvB assessment: ND

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

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### Section 3: Composition / Information on Ingredients

<u>Component(s)</u>	<u>CAS Number</u>	<u>% w/w</u>
Graphite	7782-42-5	0 – 100%
Carbon	7440-44-0	0 – 100%

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### Section 4: First Aid Measures

**Eye(s) Contact:** Immediately flush eyes with copious amounts of water for at least 15 minutes, retracting eye lids often.  
Get medical attention immediately.  
Contact lenses should not be worn when working with this product.

<b>Skin Contact:</b>	Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes.
<b>Inhalation:</b>	If large amounts of the dust are inhaled, move the exposed person to fresh air at once. If symptoms persist contact physician.
<b>Ingestion:</b>	Drink plenty of water. Contact physician/poison center if symptoms persist.

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### Section 5: Fire Fighting Measures

Carbon/graphite powders are combustible.

Solid carbon/graphite products are not very combustible but may burn if exposed to high temperatures.

<b>Suitable extinguishing media:</b>	Use an extinguisher that is suitable for the surrounding fire. Dusts/powders are combustible. Use water, carbon dioxide (CO <sub>2</sub> ), dry chemical or foam.
<b>Combustion hazards:</b>	When burned, carbon/graphite releases carbon dioxide (CO <sub>2</sub> ) and possibly carbon monoxide (CO) if there is not enough oxygen for complete combustion.
<b>Special fire-fighting procedures:</b>	Use protective clothing and breathing equipment appropriate to the surrounding fire. Material in or near fires should be cooled with a water spray or fog. A self-contained breathing apparatus, operating in the positive pressure mode should be worn for combating fires.
<b>Unusual fire and explosion hazards:</b>	As is the case with any combustible dust, concentration of airborne carbon/graphite powder can present a dust explosion hazard. Practice good housekeeping to prevent dust accumulation and prevent situations where substantial amounts of dust can become airborne. Thermal decomposition or combustion may produce smoke, oxides of carbon, and low molecular weight organic compounds whose composition has not been characterized.
Flammable Limits:	NA
Auto-ignition point:	NA

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### Section 6: Accidental Release Measures

Sweep or vacuum spilled material and place into sealable containers.

Avoid creating and breathing airborne dust.

Dispose in accordance with applicable Federal, State and local waste disposal regulations.

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### Section 7: Handling and Storage

<b>Advice on safe handling:</b>	Practice good housekeeping to avoid the accumulation of dust in the workplace. Avoid creating and breathing airborne dust. Practice good hygiene. As good practice, wash hands before eating, drinking or smoking and do not store food, or eat or drink, in areas where chemicals are handled. Any dusts generated during handling or processing should be cleaned up by wet mopping or vacuuming with a unit which contains a HEPA filter. Dry sweeping can suspend particulate matter in the atmosphere.
<b>Conditions for safe storage:</b>	Store in the plastic bags or container in which the product is shipped, tightly sealed.

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## Section 8: Exposure Controls / Personal Protection

### INGREDIENTS WITH WORKPLACE CONTROL PARAMETERS

Components	CAS No.	OSHA PEL (8-hour TWA)	ACGIH TLV (8-hour TWA)
Graphite	7782-42-5	15 mg/m <sup>3</sup> (total)	
		5 mg/m <sup>3</sup> (respirable)	2 mg/m <sup>3</sup> (respirable)
Carbon	7440-44-0	15 mg/m <sup>3</sup> (total)	10 mg/m <sup>3</sup> (total)
		5 mg/m <sup>3</sup> (respirable)	3 mg/m <sup>3</sup> (respirable)

**Other jurisdiction may have different exposure limits and controls guidelines**

**Users are advised to consult and comply with local regulations**

#### Engineering measures

Use good housekeeping practices.  
Use general or local exhaust ventilation, if necessary, to reduce concentrations or airborne contaminants.

#### Personal protection equipment

Respiratory protection:

Use NIOSH-approved respiratory protective equipment (for example, an N-95 dust mask) if exposures exceed established limits.

Eye protection:

Protective glasses with side-shields should be worn to prevent eye contact with particulate matter.

Hand protection remarks:

Protective gloves are recommended to prevent cuts, abrasions, and irritation during handling and processing.

Hygiene measures:

Wash hands before eating, drinking or smoking.  
Keep away from food and drink.  
Normal work clothes may become soiled by dusts, coveralls are recommended.  
Wash soiled clothing before reuse.  
Store in areas where chemicals are handled.

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## Section 9 Physical and Chemical Properties

Appearance	Black solid, silver flexible sheet
Odor	No odor, slight hydrocarbon
Odor threshold	Not applicable
pH	Not applicable
Melting point/range	>5,000°F / >2,760°C
Boiling point/range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Not applicable
Upper explosion/flammability limit	Not applicable
Lower explosion/flammability limit	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	Not applicable
Solubility in H <sub>2</sub> O	Insoluble
Partition coefficient (n-octanol/water)	Not applicable
Auto-ignition temperature	Very high
Decomposition temperature	Not applicable
Viscosity	Not applicable

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## Section 10: Stability and Reactivity

This material is stable and non-reactive

Reactivity:	Non-reactive under conditions of normal use.
Chemical stability:	Stable under normal conditions.
Incompatible materials:	Avoid strong oxidizing agents
Hazardous decomposition products:	Will not occur

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## Section 11: Toxicological Information

### Effects of Overexposure

Acute:	High concentrations of graphite/carbon dusts may be irritating to the eyes, skin, mucous membranes, and respiratory tract.
Chronic:	Inhalation of high concentrations of graphite/carbon dusts over prolonged periods of time may cause Pneumoconiosis. Symptoms can include cough, shortness of breath and decrease in pulmonary function. Preexisting pulmonary disorders such as Emphysema may possibly be aggravated by prolonged exposure to high concentrations of graphite/carbon dust.

Note: Graphite alone may cause irritation of the respiratory tract but is not listed as a carcinogen. However, it may contain impurities of crystalline silica which is listed as a carcinogen.

This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

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## Section 12: Ecological Information

### **Steps to be taken in case material is spilled or released:**

- Spilled/released material should be picked up with suitable implement and returned to the original container if reusable.
  - If not reusable, the material should be placed in DOT approved containers for disposal.
  - Personnel involved in the cleanup should be wearing appropriate personal protective equipment. (See Section 8) Graphite/carbon is relatively inert and would be expected to be of negligible consequences in the environment.
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## Section 13 Disposal Considerations

This product does not contain substances that could cause it to be hazardous waste, if disposed.

Dispose in accordance with applicable waste disposal regulations.

Do not allow material to enter storm or sanitary sewers, groundwater or soil.

Releases may be reportable to local, state and federal authorities.

Disposal in an EPA approved landfill is recommended.

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## Section 14: Transportation Information

US DOT Information: Proper shipping name: Not Regulated.

Hazard Class: Not Regulated.

Packaging group: NA

UN Number: Not Regulated.

Limitations: NA

IATA: Proper shipping name: Not Regulated.

Hazard Class: NA

Packing group: NA

UN Number: NA

Limitations: NA

Domestic shipments only:

IMO: Proper shipping name: NA

Class: NA

UN Number: NA

Packing group: NA

EMS: NA

MFAG: NA

Marine Pollutant: No

Canadian TDG: All components of this product are listed on the Canadian Environmental Protection Act (CEPA) provisional domestic substances list (DSL).

IMDG Page: NA

Limitations: NA

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## **Section 15: Regulatory Information**

### SARA - Superfund Amendments and Reauthorization Act:

Section 355 (extremely hazardous substances)                      Substance is not listed

Section 313 (specific toxic chemical listings)                      Substance is not listed

TSCA - Toxic Substances Control Act:                      ACTIVE

Hazardous Air Pollutants:                      Substance is not listed

California Proposition 65:                      Substance is not listed

### Carcinogenic categories:

EPA (Environmental Protection Agency):                      Substance is not listed

TLV (Threshold Limit Value):                      Substance is not listed

NIOSH (National Institute for Occupation Safety and Health:

Substance is not listed

### Chemical Safety Assessment:

An assessment has not been performed

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## **Section 16: Other Information**

This Safety Data Sheet (SDS) is intended to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

### Full text of other abbreviations

ACGIH:                      USA. ACGIH Threshold Limit Values (TLV)

ACGIH BEI:                      ACGIH - Biological Exposure Indices (BEI)

NIOSH REL:                      USA. NIOSH Recommended Exposure Limits

OSHA Z-1:                      USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

OSHA Z-2:                      USA. Occupational Exposure Limits (OSHA) - Table Z-2

US WEEL:                      USA. Workplace Environmental Exposure Levels (WEEL)

ACGIH / TWA:                      8-hour, time-weighted average

ACGIH / STEL:                      Short-term exposure limit

NIOSH REL/TWA:                      Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

NIOSH REL/ST:                      STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday

OSHA Z-1 / TWA:                      8-hour time weighted average

OSHA Z-2/TWA:                      8-hour time weighted average

OSHA Z-2/CEIL:                      Acceptable ceiling concentration

OSHA Z-2/Peak:                      Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift

US WEEL/TWA:                      8-hr TWA

AICS - Australian Inventory of Chemical Substances;

AIIC - Australian Inventory of Industrial Chemicals;

ASTM - American Society for the Testing of Materials;

bw - Body weight;  
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act;  
CMR - Carcinogen, Mutagen or Reproductive Toxicant;  
DIN - Standard of the German Institute for Standardization;  
DOT - Department of Transportation;  
DSL - Domestic Substances List (Canada);  
ECx - Concentration associated with x% response;  
EHS - Extremely Hazardous Substance;  
ELx - Loading rate associated with x% response;  
EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan);  
ErCx - Concentration associated with x% growth rate response;  
ERG - Emergency Response Guide;  
GHS - Globally Harmonized System;  
GLP - Good Laboratory Practice;  
HMIS - Hazardous Materials Identification System;  
IARC - International Agency for Research on Cancer;  
IATA - International Air Transport Association;  
IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;  
IC50 - Half maximal inhibitory concentration;  
ICAO - International Civil Aviation Organization;  
IECSC - Inventory of Existing Chemical Substances in China;  
IMDG - International Maritime Dangerous Goods;  
IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan);  
ISO - International Organization for Standardization;  
KECI - Korea Existing Chemicals Inventory;  
LC50 - Lethal Concentration to 50 % of a test population;  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose);  
MARPOL - International Convention for the Prevention of Pollution from Ships;  
MSHA - Mine Safety and Health Administration;  
n.o.s. - Not Otherwise Specified;  
NFPA - National Fire Protection Association;  
NO(A)EC - No Observed (Adverse) Effect Concentration;  
NO(A)EL - No Observed (Adverse) Effect Level;  
NOELR - No Observable Effect Loading Rate;  
NTP - National Toxicology Program;  
NZIoC - New Zealand Inventory of Chemicals;  
OECD - Organization for Economic Co-operation and Development;  
OPPTS - Office of Chemical Safety and Pollution Prevention;  
PBT - Persistent, Bioaccumulative and Toxic substance;  
PICCS - Philippines Inventory of Chemicals and Chemical Substances;  
(Q)SAR - (Quantitative) Structure Activity Relationship;  
RCRA - Resource Conservation and Recovery Act;  
REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals;  
RQ - Reportable Quantity;  
SADT - Self-Accelerating Decomposition Temperature;  
SARA - Superfund Amendments and Reauthorization Act;  
SDS - Safety Data Sheet;  
TCSI - Taiwan Chemical Substance Inventory;  
TSCA - Toxic Substances Control Act (United States);  
UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods;  
vPvB - Very Persistent and Very Bioaccumulative

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**Disclaimer**

Ted Pella, Inc. makes no warranty of any kind regarding the information furnished herein. Users should independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.

SDS Form 0013F1V4