

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier Product name: All Grades

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Processing of graphite (substance) → Milling and sieving of graphite powder.

Distribution and handling of graphite (substance) → Bulk loading and unloading, repacking sampling and storage of synthetic graphite power.

Formulation of mixtures → Mixing of graphite powder with additional components.

Calendering /molding operations → Compression of graphite as a substance or in preparations (production of articles)

Thermal treatment → Thermal treatment at temperatures above 500 °C incl charging and discharging

Use as an article (mechanical applications) → Sealing and bearing application (industrial incl, automotive)

Use as an article (high temperature applications) → Heater, Shielding, and thermal management

Use as an article (electrical applications) → Conductivity (e.g. electrical contacts, brushes, EDM)

Use as an article (metallurgical applications) → e.g. graphite electrodes, dies of continuous casting

Use as substance or in preparations → e.g. use in lubricants and conductive materials

Use as substance or in preparations → e.g. casting powder

Uses advised against

None

1.3. Details of the supplier of the safety data sheet

Name of supplier (importer):	Graphtek LLC	
Address	600 Academy Drive Suite 100 Northbrook, IL 60062, USA	
Telephone number	800-305-1664 (Toll Free US)	847-279-1619
Fax number		847-279-1926
e-mail address	materials@graphtekllc.com	
1.4. Emergency telephone number	847-279-1619	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification in accordance with EC No 1272/2008:

Not classified

Classification in accordance with 67/548/EEC:

Not classified

2.2. Label elements

In accordance with EC No 1272/2008:

Not applicable

2.3. Other hazards

- The product does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex X III.
- High slip hazard because of leaking spilled product. Graphite dusts could cause an electrical short.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product Name: Artificial Graphite

Chemical name: Graphite

Chemical Formula: C

CAS Number: 7782-42-5

EC number: 231-955-3

Purity: C ; 99.9 wt-% or more, Al,Si,Fe, and others ; 0.1 wt-% or less

Dangerous contamination: none

REACH Article 155(SVHC): This Product contains no chemical substance that is listed in Article 59 (1, 10) Regulation (EC) .1907/2006.

SECTION 4: First aid measures

4.1. Description of first aid measures

IF INHALED Gargle with water and rinse mouth. Get medical advice/attention if you feel unwell.

IF ON SKIN Wash contaminated area with soap and water then rinse with plenty of water.

IF IN EYES Immediately rinse cautiously with water. If symptoms continue, call a doctor/physician. Do not rub the eyes as it may cause damage to the eyes.

IF SWALLOWED Induce vomiting by giving plenty of water. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed No information

4.3. Indication of any immediate medical attention and special treatment needed No information

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water, carbon dioxide, fire foam and dry chemical powder

Unsuitable extinguishing media

Applying direct water may be dangerous because fire may expand to surroundings.

5.2. Special hazards arising from the substance or mixture

In case of fire, produce carbon dioxide or carbon monoxide in combustion gas. Pay attention to oxygen deficiency and carbon monoxide poisoning. Wear appropriate self-contained compressed air breathing apparatus (cylinder type) when fire-fighting in the room.

5.3. Advice for firefighters

Cut off any ignition sources and extinguish the fire with water-cooling or an appropriate agent (e.g. water, carbon dioxide, fire foam and dry chemical powder). Cool the surrounding tank and the buildings with direct water jet to avoid risk of fire spreading. Take action from windward.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

May not leak out because this product is solid.

Keep out except responsible personnel.

Wear suitable protective equipment described in "Section 8: Exposure controls/personal protection".

For emergency responders:

Wear suitable protective equipment described in section "SECTION 8: Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release into the environment because spilled product may cause local effects.

6.3. Methods and material for containment and cleaning up

Sweep up scattered materials or vacuum them using a vacuum cleaner so as not to cause dust then collect them into an empty container. Do not eat or drink near handling and storage locations. Prevent to flowing into drains, sewers, basements or closed areas.

6.4. Reference to other sections

Refer to "SECTION 8: Exposure controls/personal protection" and "SECTION 13: Disposal considerations" as appropriate.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures:

Install appropriate equipment and wear suitable protective apparatus described in section "SECTION 8: Exposure controls/personal protection".

Advice on general occupational hygiene:

Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid the generation of dust.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures:

Install appropriate equipment and wear suitable protective apparatus described in "SECTION 8: Exposure controls/personal protection".

Incompatible materials:

Oxidizing agents

Conditions for safe storage:

Prevent to exposure to dust and water.

Avoid storing under sunlight, rainwater, high temperature and high humidity.

Packing material:

Use a sealed container without damage or leakage.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

Worker, industry, and Worker, professional : DNEL/DMEL(inhalation.): 1.2mg/m³

Consumer use : DNEL/DMEL(inhalation.):0.3mg/m³ DNEL/DMEL(oral.):813mg/kg bw/day

Remark:

DNEL(inhalation.) is applicable for respirable fractions of Graphite dust that can reach the alveolar regions of the lung.

8.2. Exposure controls

Acceptable concentration (exposure limit, biological exposure index)

ACGIH TLV-TWA (2013)	3 mg/m ³ (Respirable particles)
	10 mg/m ³ (Inhalable particles)

Appropriate engineering controls:

If dust is generated, avoid inhalation of the generated dust.

In case of dust generation, seal the dust source and install local exhaust ventilation systems.

Personal protective equipment:

Respiratory protection Respiratory protection is usually not needed, but necessary under dust releasing conditions.

Hand protection Wear gloves are usually not needed, but necessary under dust releasing conditions.

Eye protection Wear safety goggles are usually not needed, but necessary under dust releasing conditions.

Skin and body protection Wear protective clothing is usually not needed, but necessary under dust releasing conditions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance (physical state, form and color)	Black solid
Odor	Odorless
Odor threshold	No information
pH	No information
Melting point/ freezing point	No information
Boiling point, initial boiling point and boiling range	No information

Flashpoint	No information
Evaporation rate	No information
Flammability (solid, gas)	No information
Upper/lower explosive limits	No information
Vapor pressure	10-10 atm (2,000°C)
Vapor density	No information
Specific gravity	2.20 g/cm ³ (true specific gravity)
Solubility	Insoluble in all solvent
n-octanol/water partition coefficient	No information
Auto-ignition temperature	No information
Decomposition temperature	No information
Viscosity	No information
Explosiveness	No information

9.2. Other information

No information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal handling condition.

10.2. Chemical stability

This product is oxidized with an oxidizing agent.

10.3. Possibility of hazardous reactions

This product is not spontaneous combustion. It gradually burns/oxidizes with fuel at high temperature (over 400°C), but goes out if removing the ignition source.

10.4. Conditions to avoid

- Graphite dust with particles sizes from 4 to 40µm is able to explode in a wide range of concentrations.

The minimum ignition energy is >1000J for the finest dust, The dusts tested were classified as St1. (Denkevits A,2003)

- Avoid storing under sunlight, rainwater, high temperature and high humidity.

10.5. Incompatible materials

No information

10.6. Hazardous decomposition products

In case of fire, produce carbon dioxide or carbon monoxide in combustion gas.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicokinetic, metabolism, and distribution

Based on existing data the substance does not fulfill the criteria of CMR-substances Cat.1 and 2 according 67/548/EEC.

Acute toxicity

Based on available data the classification criteria are not met. Acute toxicity, oral: LD50; >2000mg/kg bw(body weight)/day [rat] (OECD 423) Acute toxicity, inhalant: LD50(4h); >2000mg/m³ air [rat] (OECD 403) Dose limit according to CLP.

Irritation and corrosivity

Skin corrosion/irritation: Not irritating. [rabbit] (OECD 404) Irritant effect on the eyes: Not irritating. [rabbit](OECD 405) Respiratory or skin sensitization: no danger of sensitization. [mouse](OECD 429)

Carcinogenic/mutagenic/toxic effect for reproduction

Based on available data the classification criteria are not met

Genotoxicity:

Bacterial reverse mutation assay (OECD471): negative

Mammalian cell gene mutation assay (gene mutation)(OECD476): negative

Carcinogenicity: No indications of human carcinogenicity exist.

Reproductive toxicity: NOAEL based on nominal food intake =1000mg/kg bw/day.

Graphite was tested up to the limit dose given in OECD 422(nominal 1000mg/kg bw/day [rat]). No signs of systemic toxicity were observed.

Other health effects None

SECTION 12: Ecological information

12.1. Toxicity:

Acute toxicity, fish: LC50 (96 h): > 100 mg/L, Method; OECD203 Acute toxicity, Daphnia magna: EC50 (48 h): > 100 mg/L, Method; OECD202 Algae and aquatic plants: EC50 (72 h): > 100 mg/L; Method; OECD201

12.2. Persistence and degradability:

This product is not expected to be degradable by microorganism.

12.3. Bio accumulative potential: No information

12.4. Mobility in soil: No information

12.5. Results of PBT and vPvB assessment:

The product does not meet the PBT and vPvB criteria.

12.6. Other adverse effects:

No information

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of waste in accordance with applicable local, regional and international regulations and standards.

When disposing, consult to a certificated waste trader or local offices if they deal with the waste.

When disposing of this product, clearly disclose contents of waste and dispose of as industrial waste.

SECTION 14: Transport information

14.1. UN number Not applicable

14.2. UN proper shipping name Not applicable

14.3. Transport hazard class (ES) Not applicable

14.4. Packing group Not applicable

14.5. Environmental hazards **Not applicable**

14.6. Special precautions for user

Avoid water leakage and rough handling to prevent packages from being damaged. Collect leakage into a container and dispose it in accordance with "SECTION 13: Disposal considerations".

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code When transporting, avoid direct sunlight. Confirm no leakage to containers. Load to prevent falling dropping off or damage containers and take preventive measures of collapse.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/ legislation specific for the substance or mixture. The product and its ingredients are not regulated by specific provisions related to protection of human health or the environment at EU level, e.g. not considered as SVHCs or POPs.

15.2. Chemical safety assessment Not conducted

15.3 Other information PRTR Law: No application Export Trade Control Ordinance: Requires export license under certain condition. TSCA Inventory: Valid

Section 16: Other information

Update history:

Date of issue: 27 August, 2014

Relevant risk phrases of which do not appear elsewhere in this SDS

Not applicable

Abbreviations

PBT: Persistent, Bio accumulative and Toxic substance

POPs: Persistent Organic Pollutants

STOT: Specific Target Organ Toxicity

SVHC: Substances of Very High Concern

VPVB: Very Persistent and Very Bioaccumulative

PRTR: Pollutant Release and Transfer Register

TSCA: Toxic Substances Control Act

[Disclaimer] This SDS has been prepared based on the best available information however, it may not be sufficient in some cases. It is user's responsibility to modify or update any contents in this SDS regarding information on hazardous properties and/or instruction for safe handling of the product when they become available. Precautionary measures in this SDS are only applicable for normal handling conditions and it is necessary to take appropriate additional measures to ensure safe handling which depend on your specific use conditions or situations.