

Safety Data Sheet

according to Commission Regulation (EU) 2020/878 of 18 June 2020

1 – Identification of the substance/mixture and of the company/undertaking

1.1: Product identifier

Trade name: Natural graphite, nanoform

CAS Number: 7782-42-5

REACH Registration Number: Exempt

1.2: Relevant identified uses of the substance and uses advised against

Recommended use: Industrial uses.

Restrictions on use: Not intended for food and drug use.

1.3: Details of the supplier of the Safety Data Sheet

Manufacturer/Supplier:

Asbury Carbons, Inc.

Fregatweg 46 B-C

Limburg, Maastricht 6222 NZ

Chemtel: +(813)248-0585

Asbury: 011-31-040-7600610

Preparer: RTW

Email Address: rweir@asbury.com

Date Prepared: 2/23/2023 (replaces version 11/12/2020)

1.4: Emergency telephone number:

ChemTel	800-255-3924 (North America)
	+1 (813)248-0585 (International)

2 - Hazards Identification

2.1: Classification of the substance

Combustible Dust - May form combustible dust concentrations in air

2.2: Label Elements

GHS label elements

This product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:** none required
- **Signal word:** Warning
- **Hazard statements:** May form combustible dust concentrations in air.
- **Precautionary statements:**
 - Keep away from all ignition sources including heat, sparks and flame.
 - Prevent dust accumulations to minimize explosion hazard.

• **Additional information:**

Read the label and safety data sheet before use. Prevent dust accumulations to minimize explosion hazard. Keep away from all ignition sources including heat, sparks and flame.

2.3: Other hazards:

May form explosible dust-air mixture if dispersed.

3 – Composition/Information on Ingredients

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Substance: Graphite, nanoform

CAS #: 7782-42-5

EC #: 231-955-3

Registration number: Exempt

Nanoform characterization:

Crystalline, high-aspect-ratio flake

Surface area 100-500 m²/g (BET method)

Nominal particle width >100 nm, but nominal particle thickness <100 nm

4 – First Aid Measures

4.1: Description of first aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

- Brush off loose particles from skin.
- If skin irritation is experienced, consult a doctor.

After eye contact:

- Remove contact lenses if worn.
- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After ingestion: Do not induce vomiting; immediately call for medical help.

4.2: Most important symptoms and effects, both acute and delayed

Exposure to airborne dust.

4.3: Indication of any immediate medical attention and special treatment needed

- If medical advice is needed, have product container or label at hand.
 - If necessary, give oxygen respiration treatment.
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5 – Firefighting Measures

5.1: Extinguishing media

- **Suitable extinguishing media:** Use firefighting measures that suit the environment.
- **Unsuitable extinguishing media:** No relevant information available.

5.2: Special hazards arising from the substance or mixture

- Can pose a dust explosion hazard if dispersed in air. Avoid ignition sources.
- Combustible dust Class ST1, MIE greater than 10J
- During heating or in case of fire poisonous gases are produced.

5.3: Advice for firefighters

Protective equipment:

- Wear self-contained respiratory protective device.
 - Wear fully protective suit.
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6 – Accidental Release Measures

6.1: Personal precautions, protective equipment and emergency procedures

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Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation, and avoid formation of dust.
Particular danger of slipping on leaked/spilled product.

6.2: Environmental precautions

Do not allow to enter sewers, surface or ground water.

6.3: Methods and material for containment and cleaning up

Sweep up or vacuum, then place into an appropriate container.
Send for recovery or disposal in suitable receptacles.

6.4: 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 disposal information.

7 – Handling and Storage

7.1: Precautions for safe handling:

- Use only in well ventilated areas.
- Prevent formation of dust, avoid breathing dust.
- Any deposit of dust which cannot be avoided must be regularly removed.
- Prevent release of material to sewers or waterways.
- Do not eat, drink, or smoke in work areas. Wash hands after use, and remove contaminated clothing and protective equipment before entering eating areas.

Information about protection against explosions and fires:

- Dust can combine with air to form an explosive mixture.
- Dust Class ST1, MIE greater than 10J (very low hazard of spark ignition)

7.2: Conditions for safe storage, including any incompatibilities

- Store in cool, dry conditions in well-sealed receptacles.
- Store away from foodstuffs.
- Store away from oxidizing agents.

7.3: Specific end use(s)

See Section 1.2

8 – Exposure Controls/ Personal Protection

8.1: Control parameters

Components with limit values that require monitoring at the workplace:

Graphite (CAS # 7782-42-5):

- PEL (USA) Long-term value: 15 mppcf* mg/m³ (*impinger samples counted by light field technique)
- REL (USA) Long-term value: 2.5* mg/m³ (*respirable dust)
- TLV (USA) Long-term value: 2* mg/m³, all forms except graphite fibers (*resp. fraction)

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- EL (Canada) Long-term value: 2 mg/m³ respirable
- EV (Canada) Long-term value: 2 mg/m³ respirable
- LMPE (Mexico) Long-term value: 2* mg/m³ (*fracción respirable)

8.2: Exposure controls:

Engineering controls: Provide adequate ventilation.

General protective and hygienic measures:

- The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Wash hands before breaks and at the end of work.

Personal protective equipment:

- Breathing equipment: Respiratory protection required. Wear appropriate NIOSH respirator when ventilation is inadequate and occupational exposure limits are exceeded.
 - Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product.
 - Eye protection: Safety glasses. Follow relevant national guidelines concerning the use of protective eyewear.
 - Body protection: Protective work clothing
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Environmental exposure controls: No relevant information available.

9 – Physical and Chemical Properties

9.1: Information on basic physical and chemical properties

Physical state: Solid (granulate to powder)

Color: Grey to Black.

Odor: Odorless

Odor threshold: Not determined.

Melting / freezing point: Not determined.

Boiling point: Not determined.

Flammability: n/a (material is a solid)

Explosion limits: Lower: Not determined; Upper: Not determined.

Flash point: n/a (material is a solid)

Auto-ignition temperature: n/a (material is a solid)

Decomposition temperature: not applicable

pH-value: n/a (material is an insoluble solid)

Kinematic viscosity: n/a (material is an insoluble solid)

Solubility in / miscibility with water: Not miscible; insoluble.

Partition coefficient (n-octanol/water): Not determined.

Vapor pressure: n/a (material is a stable solid)

Relative density: 2.26

Vapor density: n/a (material is a stable solid)

Particle characteristics:

Classified as a nanoform material (per EU Commission Recommendation of 18 October 2011)

Crystalline, high-aspect-ratio flake

Surface area 100-500 m²/g (BET method)

Nominal particle width >100 nm, but nominal particle thickness <100 nm

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9.2: Other information:

Warning: may form combustible dust concentrations in air.
Combustible dust class ST1: KST <200 bar m/s, MIE above 10J

10 – Stability and Reactivity

10.1: Reactivity:

No known reaction hazards.

10.2: Chemical stability

Stable under ambient temperatures and pressures.

10.3: Possibility of hazardous reactions:

May form combustible dust concentrations in air. See section 9
Reacts with strong oxidizing agents.

10.4: Conditions to avoid

To avoid thermal decomposition, avoid temperatures above 842 °F / 450 °C.
Toxic fumes may be released if heated above the decomposition point.

10.5: Incompatible materials

Oxidizing agents

10.6: Hazardous decomposition products

Carbon monoxide and carbon dioxide

11 – Toxicological Information

11.1: Information on toxicological effects

Acute toxicity: Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure: Based on available data, the classification criteria are not met.

STOT-repeated exposure: In situations of repeated excessive lung overload due to a high airborne concentration of particles of respirable size for extended periods of time, pneumoconiosis may develop.

Aspiration hazard: Based on available data, the classification criteria are not met.

Probable route(s) of exposure: Inhalation, eye contact, skin contact

11.2: Information on other hazards

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Endocrine disrupting properties: No known hazards

12 – Ecological Information

12.1: Toxicity

Aquatic toxicity: No relevant information available.

12.2: Persistence and degradability

Graphite is inert and not biodegradable.

12.3: Bioaccumulative potential

No known bioaccumulative hazards

12.4: Mobility in soil

Not water soluble.

12.5: Results of PBT and vPvB assessment

No listed substances present in this product.

12.6: Endocrine disrupting properties

No known hazards

12.7: Other adverse effects:

No further relevant information available.

13 – Disposal Considerations

13.1: Waste treatment methods

Recommendation: The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Do not dispose in sewers or waterways.

Uncleaned packaging: Dispose according to official regulations.

14 – Transport Information

14.1: UN-Number Not regulated by DOT, ADR/RID/ADN, IMDG, or IATA

14.2: UN proper shipping name Not regulated by DOT, ADR/RID/ADN, IMDG, or IATA

14.3: Transport hazard class(es) Not regulated by DOT, ADR/RID/ADN, IMDG, or IATA

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14.4: Packing group Not regulated by DOT, ADR/RID/ADN, IMDG, or IATA

14.5: Environmental hazards Not a marine pollutant

14.6: Special precautions for user No further relevant information available

14.7: Maritime transport in bulk according to IMO instruments

Not a marine hazard, not hazardous in bulk

15 – Regulatory Information

15.1: Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH Substances of Very High Concern (SVHC): Product contains no listed substances

United States (USA)

SARA Section 302 (extremely hazardous substances): None of the ingredients are listed.

SARA Section 313 (Specific toxic chemical listings): None of the ingredients are listed.

TSCA (Toxic Substances Control Act): All ingredients are listed or exempt.

Proposition 65 (California)

Chemicals known to cause cancer: None of the ingredients are listed.

Chemicals known to cause reproductive toxicity: None of the ingredients are listed.

Chemicals known to cause developmental toxicity: None of the ingredients are listed.

US EPA (Environmental Protection Agency): None of the ingredients are listed.

Canadian Domestic Substances List (DSL):

All ingredients are listed or exempt.

15.2: Chemical safety assessment

This document represents the results of our assessment.

16 – Other Information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

Carc. 1A: Carcinogenicity – Category 1A

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Sources

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services

(ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN:

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Safety Data Sheets, Individual Manufacturers

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For other local and industry-specific regulatory declarations, please visit
<https://asbury.com/resources/asbury-carbons-regulatory-statements/>