

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

<b>Name of the substance</b>	GRAF+™ Graphite Powders
<b>Identification number</b>	231-955-3 (EC number)
<b>Registration number</b>	01-2119486977-12-XXXX
<b>Synonyms</b>	None.
<b>SDS number</b>	4049
<b>Issue date</b>	28-March-2018
<b>Version number</b>	01
<b>Revision date</b>	-
<b>Supersedes date</b>	-

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

<b>Identified uses</b>	Applications requiring lubrication, energy storage, thermal conductivity, electrical conductivity, and/or inert characteristics.
<b>Uses advised against</b>	None known.

**1.3. Details of the supplier of the safety data sheet**

<b>Supplier</b>	GrafTech France S.N.C Rue des Garennes CS 10478 F-62226 CALAIS cedex +33-3-2119-1420
<b>Manufacturer</b>	GrafTech International Holdings Inc. or affiliate 982 Keynote Circle Brooklyn Heights, Ohio 44131 +1 216-676-2000
<b>Contact person</b>	Product Responsibility Manager +1-216-676-2304
<b>E-mail</b>	sds@graftech.com

**1.4. Emergency telephone number**

For Chemical Emergency ONLY, call:  
+44-20-35147487, +1-760-476-3961  
Access Code: 334799

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

**Classification according to Regulation (EC) No 1272/2008 as amended**

This substance does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

**Hazard summary** Exposure to powder or dusts may be irritating to eyes, nose and throat.

**2.2. Label elements****Label according to Regulation (EC) No. 1272/2008 as amended**

<b>Contains:</b>	Graphite
<b>Hazard pictograms</b>	None.
<b>Signal word</b>	None.
<b>Hazard statements</b>	The substance does not meet the criteria for classification.

**Precautionary statements**

<b>Prevention</b>	Observe good industrial hygiene practices.
<b>Response</b>	Wash hands after handling.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of waste and residues in accordance with local authority requirements.

**Supplemental label information** None.

2.3. Other hazards Not a PBT or vPvB substance or mixture.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Graphite	> 99	7782-42-5 231-955-3	01-2119486977-12-XXXX	-	
<b>Classification:</b>	-				

#### List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## SECTION 4: First aid measures

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 4.1. Description of first aid measures

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

**4.2. Most important symptoms and effects, both acute and delayed** Dusts may irritate the respiratory tract, skin and eyes. Coughing.

**4.3. Indication of any immediate medical attention and special treatment needed** Treat symptomatically.

## SECTION 5: Firefighting measures

**General fire hazards** May form combustible dust concentrations in air.

### 5.1. Extinguishing media

**Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**5.2. Special hazards arising from the substance or mixture** During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special fire fighting procedures** Use water spray to cool unopened containers.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up.

**For emergency responders** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

**6.2. Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

### 6.3. Methods and material for containment and cleaning up

Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. The product is immiscible with water and will sediment in water systems. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.

### 6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid prolonged exposure. Practice good housekeeping.

### 7.2. Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

### 7.3. Specific end use(s)

Applications requiring lubrication, energy storage, thermal conductivity, electrical conductivity, and/or inert characteristics.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

No exposure limits noted for ingredient(s).

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

#### Recommended monitoring procedures

Follow standard monitoring procedures.

#### Derived no effect levels (DNELs)

##### General Population

Components	Value	Assessment factor	Notes
Graphite (CAS 7782-42-5)			
Long-term, Systemic, Oral	813 mg/kg bw/day	1	Repeated dose toxicity
Short-term, Systemic, Inhalation	0.3 mg/m <sup>3</sup>	10	Repeated dose toxicity

##### Workers

Components	Value	Assessment factor	Notes
Graphite (CAS 7782-42-5)			
Short-term, Systemic, Inhalation	1.2 mg/m <sup>3</sup>	5	Repeated dose toxicity

#### Predicted no effect concentrations (PNECs)

Not available.

### 8.2. Exposure controls

#### Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide explosion-proof ventilation for high dust concentrations.

#### Individual protection measures, such as personal protective equipment

##### General information

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

##### Eye/face protection

Wear safety glasses with side shields (or goggles).

##### Skin protection

##### - Hand protection

Wear appropriate chemical resistant gloves.

##### - Other

Wear suitable protective clothing.

##### Respiratory protection

Wear respirator with dust filter.

##### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

#### Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Environmental exposure controls** Environmental manager must be informed of all major releases.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Black powder.
<b>Physical state</b>	Solid.
<b>Form</b>	Powder.
<b>Colour</b>	Black.
<b>Odour</b>	Odourless.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	> 2760 °C (> 5000 °F)
<b>Initial boiling point and boiling range</b>	3642 °C (6587.6 °F)
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not applicable.
<b>Flammability limit - upper (%)</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	2 (Approximate)
<b>Solubility(ies)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not applicable.
<b>Auto-ignition temperature</b>	452 °C (845.6 °F)
<b>Decomposition temperature</b>	Not applicable.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Dust may form explosive mixture with air.
<b>Oxidising properties</b>	Not oxidising.

### 9.2. Other information

**Bulk density** Not applicable.

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Contact with incompatible materials.
<b>10.5. Incompatible materials</b>	Chlorine.
<b>10.6. Hazardous decomposition products</b>	No hazardous decomposition products are known.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

<b>Inhalation</b>	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Dust or powder may irritate the skin.
<b>Eye contact</b>	Dust may irritate the eyes.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms** Dusts may irritate the respiratory tract, skin and eyes. Coughing.

### 11.1. Information on toxicological effects

Acute toxicity Components	Species	Test Results
Graphite (CAS 7782-42-5)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	> 10000 mg/kg
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.	
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.	
<b>Respiratory sensitisation</b>	Based on available data, the classification criteria are not met.	
<b>Skin sensitisation</b>	Based on available data, the classification criteria are not met.	
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.	
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.	
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.	
<b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.	
<b>Specific target organ toxicity - repeated exposure</b>	Based on available data, the classification criteria are not met.	
<b>Aspiration hazard</b>	Due to partial or complete lack of data the classification is not possible.	
<b>Mixture versus substance information</b>	No information available.	
<b>Other information</b>	Not available.	

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>12.2. Persistence and degradability</b>	No data is available on the degradability of this product.
<b>12.3. Bioaccumulative potential</b>	No data available.
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not available.
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	The product is insoluble in water.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## SECTION 13: Disposal considerations

<b>13.1. Waste treatment methods</b>	
<b>Residual waste</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

14.1. - 14.6.: Not regulated as dangerous goods.

### RID

14.1. - 14.6.: Not regulated as dangerous goods.

### ADN

14.1. - 14.6.: Not regulated as dangerous goods.

## IATA

14.1. - 14.6.: Not regulated as dangerous goods.

## IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

**14.7. Transport in bulk** Not applicable.

**according to Annex II of  
MARPOL 73/78 and the IBC**

**Code**

## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Graphite (CAS 7782-42-5)

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### Authorisations

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended**

Not listed.

#### Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

#### Other EU regulations

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

#### Other regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

#### National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

#### 15.2. Chemical safety assessment

Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

**List of abbreviations** Not available.

**References** Not available.

**Information on evaluation method leading to the classification of mixture** Not applicable.

**Full text of any H-statements not written out in full under Sections 2 to 15** None.

**Training information** Follow training instructions when handling this material.

**Disclaimer**

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