

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

1.1. Product identifier

Name of the substance	GG 225-270N
Identification number	235-819-4 (EC number)
Registration number	-
Synonyms	GrafGuard
SDS number	0120
Issue date	14-October-2022
Version number	01
Revision date	-
Supersedes date	-

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

Identified uses	GrafGuard® expandable graphite flake is a non-halogenated fire-retardant additive for materials that require improved fire-protection characteristics. It can be found in building materials and automotive applications to meet increasingly stringent fire safety codes. GrafGuard materials also improve the performance of fire-retardant additives such as phosphates, magnesium hydroxide and nitrogen compounds.
Uses advised against	Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust as well as its potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

1.3. Details of the supplier of the safety data sheet

Company name	NeoGraf Solutions, LLC
Address	11709 Madison Avenue Lakewood, OH 44107 United States of America
Telephone	+1 216-529-3777
Contact person	Product Responsibility Manager +1 216-529-3724
E-mail	info@neograf.com

1.4. Emergency telephone number

For Chemical Emergency ONLY, call 3E at:
+44-20-35147487, +1-760-476-3961
Access Code: 333366

General emergency	112 or 999 SDS/Product information may not be available for the Emergency Service.
Non-emergency medical helpline	111 SDS/Product information may not be available for the Emergency Service.

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.

2.2. Label elements

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

Hazard pictograms	None.
Signal word	None.
Hazard statements	The substance does not meet the criteria for classification.

Precautionary statements

Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.

Disposal	Dispose of waste and residues in accordance with local authority requirements.
Supplemental information on the label	None.
2.3. Other hazards	This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Sulphuric acid, compound with graphite	80 - 90	12777-87-6 235-819-4	01-2119514421-54-0004	-	#
Classification: -					
Natural Impurities*	10 - 20	Not available	-	-	
Classification: -					
Crystalline silica	2.1	14808-60-7 238-878-4	-	-	#
Classification: STOT RE 1;H372					

List of abbreviations and symbols that may be used above

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

Composition comments

*Third-party analysis found that any naturally occurring Respirable Crystalline Silica (RCS) that may exist as an impurity in this substance is inextricably bound, environmentally unavailable and at de minimis concentration. Thus, in its current and anticipated future physical state, the substance is incapable of causing toxicologically relevant RCS exposure under either normal conditions of use or in case of extreme upset.

All concentrations are in percent by weight.

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	In case of inhalation of dust: 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.

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

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media	Foam. Dry chemical powder. Carbon dioxide (CO2).
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, hazardous combustion products are released that may include: Carbon oxides. Sulphur oxides. Sulfuric acid. Silicon oxide fumes.

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	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

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 Wear appropriate protective equipment and clothing during clean-up.

For emergency responders Keep unnecessary personnel away. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate protective equipment and clothing during clean-up.

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 spread on the water surface. 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. Clean surface thoroughly to remove residual contamination.

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 contact with water and moisture. Avoid prolonged exposure. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store in 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) For detailed information, see section 1. Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
------------	------	-------	------

Crystalline silica (CAS 14808-60-7)	TWA	0.1 mg/m ³	Respirable.
-------------------------------------	-----	-----------------------	-------------

United Kingdom

Components	Type	Value	Form
------------	------	-------	------

Sulphuric acid, compound with graphite (CAS 12777-87-6)	TWA	4 mg/m ³	Respirable dust.
---	-----	---------------------	------------------

		10 mg/m ³	Inhalable dust.
--	--	----------------------	-----------------

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation 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.

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). Eye protection should meet standard EN 166.

Skin protection

- Hand protection Wear suitable gloves tested to EN374. Glove material: Nitrile. Use gloves with breakthrough time of 15 - 120 minutes. Minimum glove thickness 0.1 - 0.3 mm. Other suitable gloves can be recommended by the glove supplier.

- Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Wear respirator with dust filter. Use filter type P2 according to EN 143. Appropriate respirator selection should be made by a qualified professional.
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	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Solid.
Form	Flakes.
Colour	Grey.
Odour	Slight hydrocarbon.
Odour threshold	Property has not been measured.
pH	Not applicable (material is insoluble in water).
Melting point/freezing point	> 2760 °C (> 5000 °F)
Initial boiling point and boiling range	Property has not been measured.
Flash point	Not applicable, material is a solid.
Evaporation rate	Not applicable, material is a solid.
Flammability (solid, gas)	Non flammable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not applicable, material is a solid.
Explosive limit – upper (%)	Not applicable, material is a solid.
Vapour pressure	Not applicable, material is a solid.
Vapour density	Not applicable, material is a solid.
Relative density	Property has not been measured.
Solubility(ies)	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water)	Property has not been measured.
Auto-ignition temperature	Property has not been measured.
Decomposition temperature	Property has not been measured.
Viscosity	Not applicable, material is a solid.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Density	Property has not been measured.
Kinematic viscosity	Not applicable, material is a solid.
Particle size	Property has not been measured.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Avoid contact with water and moisture. Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents. Strong alkalis. Fluorine.
10.6. Hazardous decomposition products	Decomposition is not expected under normal conditions of storage. In the event of fire: See Section 5.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Dust may irritate the eyes.
Ingestion	May cause discomfort if swallowed.

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

11.1. Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
------------	---------	--------------

Crystalline silica (CAS 14808-60-7)

Chronic

Inhalation

LOEC	Human	0.0563 mg/m ³
------	-------	--------------------------

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

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

Respiratory sensitisation Based on available data, the classification criteria are not met.

Skin sensitisation 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.

IARC Monographs. Overall Evaluation of Carcinogenicity

Crystalline silica (CAS 14808-60-7) 1 Carcinogenic to humans.

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

Specific target organ toxicity - single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Not relevant, due to the form of the product.

Mixture versus substance information No information available.

Other information No other specific acute or chronic health impact noted.

SECTION 12: Ecological information

12.1. Toxicity 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.

12.2. Persistence and degradability No data is available on the degradability of this substance.

12.3. Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient n-octanol/water (log K_{ow}) Property has not been measured.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil The product is insoluble in water. Not expected to be mobile in soil.

12.5. Results of PBT and vPvB assessment This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

12.6. Other adverse effects No data available for this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste 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.

Contaminated packaging 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.

EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Special precautions	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 according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

Retained direct EU regulations

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

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), 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

Not listed.

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 authorization, 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.

Other EU regulations

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

Not listed.

Other regulations

This product is classified and labelled in accordance with the retained CLP Regulation (EC) No 1272/2008, as amended for Great Britain. This Safety Data Sheet is compiled in accordance with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758.

Follow the requirements of the Control of Substances Hazardous to Health Regulations 2002 [SI 2002/2677], as amended, when using this material.

15.2. Chemical safety assessment No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
TWA: Time Weighted Average.
vPvB: Very persistent and very bioaccumulative.

References

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
ECHA registered substances database
EPA: AQUIRE database
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
NLM: Hazardous Substances Data Base

Information on evaluation method leading to the classification of mixture

Not applicable. The product is a substance.

Full text of any statements, which are not written out in full under sections 2 to 15

H372 Causes damage to organs through prolonged or repeated exposure by inhalation.

Training information

Follow training instructions when handling this material.

Disclaimer

NeoGraf Solutions cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.