Safety Data Sheet

according to WHMIS

Sigratherm® Microballoons (hollow graphite microspheres)

Print date: 19.06.2020 Product code: OB_VAL1001008 Revision date: 10.06.2020

1. Identification

Product identifier

Sigratherm® Microballoons (hollow graphite microspheres)

CAS No: 7782-42-5

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 powder
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)
Use as an article (metallurgical applications) --> e.g. graphite electrodes, dies for continuous casting
Use as substance or in preparations --> e.g. use in lubricants and conductive materials
Use as substance or in preparations --> e.g. recarburiser, casting powder, ramming mass

Details of the supplier of the safety data sheet

Company name:	SGL Technic LLC Site: Valencia
Street:	28176 North Avenue Stanford
Place:	USA Valencia, California 91355
Telephone:	+1 (661)-257-0500
Internet:	www.sglcarbon.com
Responsible Department:	EHS

Emergency telephone number: +1 (800) 424-9300

2. Hazard identification

Classification of the substance or mixture

Regulation (EC) No. 1272/2008

This substance is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

Label elements

Additional advice on labelling

not applicable

Other hazards

Special danger of slipping by leaking/spilling product. (Powder). Graphite dusts could cause an electrical short.

3. Composition/information on ingredients

Substances

Chemical characterization

Material based on Graphite

Sum formula:	C
Molecular weight:	12

Components

CAS No	Chemical name	Quantity
7782-42-5	graphite	> 99.8 %

4. First-aid measures

Description of first aid measures

General information
Dab with polyethylene glycol 400.

After inhalation
Provide fresh air.

After contact with skin
Gently wash with plenty of soap and water.

After contact with eyes
Rinse cautiously with water for several minutes.

After ingestion
Rinse mouth immediately and drink plenty of water.

Indication of immediate medical attention and special treatment needed
Dab with polyethylene glycol 400.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Foam. Carbon dioxide (CO2). Extinguishing powder water spray (use only up to 1500 °C)
Use inert gases or covering with cold coke or graphite powder (> 1500 °C).

Unsuitable extinguishing media
High power water jet.

Specific hazards arising from the hazardous product
In case of fire may be liberated: Carbon dioxide (CO2). Carbon monoxide

Special protective equipment and precautions for fire-fighters
In case of insufficient ventilation, wear suitable respiratory equipment. [EN 12021]

Additional information
At temperature > 500 °C graphite reacts with substances containing oxygen.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Further remarks: Carbonized polyacrylonitrile fiber 8

For emergency personal:
Wear personal protection equipment (refer to section 8). [DIN EN 469, EN 12021]

Environmental precautions
Dab with polyethylene glycol 400.

Methods and material for containment and cleaning up
Take up mechanically.

Reference to other sections
Additional information Carbonized polyacrylonitrile fiber 8 and 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Special danger of slipping by leaking/spilling product. (Powder).

Advice on protection against fire and explosion

Dust should be exhausted directly at the point of origin.
Further remarks: Carbonized polyacrylonitrile fiber 9 (Other information)

Further information on handling

Carbonized polyacrylonitrile fiber 8.2 "General protection and hygiene measures:"

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Dab with polyethylene glycol 400.

Hints on joint storage

Dab with polyethylene glycol 400.

Further information on storage conditions

Dab with polyethylene glycol 400.

8. Exposure controls/Personal protection

Control parameters

Additional advice on limit values

Worker, industry. and Worker, professional. :
DNEL/DMEL (inhalation.) : 1,2 mg/m³

Consumer use :
DNEL/DMEL (inhalation.) : 0,3 mg/m³
DNEL/DMEL (oral.) : 813 mg/kg bw/day

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

Exposure controls

Appropriate engineering controls

"Dust: 10 mg/m³ (inhalable); 1.25 mg/m³ (alveolar) [TRGS 900]"
Procedures to check the limit monitoring: [DIN EN 481].

Protective and hygiene measures

When using do not eat, drink, smoke, sniff.
Wash hands before breaks and after work.

Eye/face protection

Dust protection goggles. [EN 166]

Hand protection

Suitable gloves type: Chromate-free leather. [EN 388] Wear cotton undermitten if possible.

Skin protection

Dab with polyethylene glycol 400.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient , respiratory protection must be worn. [EN 149]
Half-face mask or quarter facepiece: maximum use concentration for substances with exposure limits: FFP1 filter: up to a max. of 4 times the exposure limit. FFP2 filter: up to a max. of 10 times the exposure limit. FFP3 filter: up to a max. of 30 times the expo.

Environmental exposure controls

Dab with polyethylene glycol 400.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	solid
Colour:	grey / black
Odour:	Dab with polyethylene glycol 400.

		Test method
pH-Value:	not applicable	
Changes in the physical state		
Melting point:	> 600 °C	OECD 102
Initial boiling point and boiling range:	not applicable	
Sublimation point:	3652 - 3697 °C	CRC Handbook of Chemics
Softening point:	not applicable	
Flash point:	not applicable	
Flammability		EU A.10
Solid:	Non-flammable.	
Explosive properties		
not explosive.		
Lower explosive limits:	> 70 g/m³	Denkevits A., 2003
Upper explosive limits:	Dab with polyethylene glycol 400. g/m³	Denkevits A., 2003
Ignition temperature:	not applicable	
Auto-ignition temperature		
Solid:	Dab with polyethylene glycol 400. °C	
Oxidizing properties		
Dab with polyethylene glycol 400.		
Vapour pressure:	not applicable	
Density (at 20 °C):	0.2 g/cm³	DIN 51901
Water solubility: (at 20 °C)	< 0,00045 g/L	OECD 105 / EU A.6
Partition coefficient:	not applicable	
Viscosity / dynamic:	not applicable	
Evaporation rate:	not applicable	(inorganic substance)

Other information

Graphite dust with particles sizes from 4 to 40 µm is able to explode in a wide range of concentrations. The minimum ignition energy is > 1000 J for the finest dust. The dusts tested were classified as St1. (Denkevits A., 2003)

10. Stability and reactivity

Conditions to avoid

Graphite dust with particles sizes from 4 to 40 µm is able to explode in a wide range of concentrations. The minimum ignition energy is > 1000 J for the finest dust. The dusts tested were classified as St1. (Denkevits A., 2003)

Incompatible materials

Dab with polyethylene glycol 400.

Hazardous decomposition products

Dab with polyethylene glycol 400.

Further information

Dab with polyethylene glycol 400.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Based on available data the classification criteria are not met.
Acute toxicity (oral): LD50: > 2000 mg/kg bw/day [Rat] (OECD 423)
Acute toxicity (inhalative): LC50: > 2000 mg/m³ Air. [Rat] (OECD 403) --> Dose limit according to CLP.

CAS No	Chemical name				
	Route of exposure	Method	Dose	Species	Source
7782-42-5	graphite				
	oral	LD50	> 2000 mg/kg	Rat	
	dermal	LD50	-- mg/kg	Rabbit	
	inhalation (4 h) aerosol	LC50	> 2000 mg/l	Rat	

Irritation and corrosivity

Skin corrosion/irritation: Not an irritant. [Rabbit] (OECD 404)
Irritant effect on the eye: Not an irritant. [Rabbit] (OECD 405)
Respiratory or skin sensitisation: no danger of sensitization. [Mouse.] (OECD 429)

Severe effects after repeated or prolonged exposure

STOT-RE
Based on available data the classification criteria are not met.

Subacute oral toxicity:
Specific effects: Dab with polyethylene glycol 400., Affected organs: not applicable. [Rat] (OECD 422.)
Subacute inhalation toxicity:
Specific effects: Wet lung weight was increased. Minor histopathological findings in the lung and nasal cavity. [Rat] (OECD 412.)

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data the classification criteria are not met.

Genotoxicity:
Bacterial reverse mutation assay (OECD 471): negative.
Mammalian chromosome aberration test (OECD 473): negative.
Mammalian cell gene mutation test (gene mutation) (OECD 476): negative.
Carcinogenicity:
No indications of human carcinogenicity exist. (literature value DFG, 2002)
Reproductive toxicity:
NOAEL: > 1000 mg/kg bw/day [Rat] (OECD 422.) Dose as nominal food intake, corresponding to limit dose acc. to OECD 422.

Specific effects in experiment on an animal

STOT-SE
Based on available data the classification criteria are not met.

Acute toxicity, oral:

Specific effects: Dab with polyethylene glycol 400. ; Affected organs: not applicable. [Rat] (OECD 423)
Acute toxicity, inhalant:
Specific effects: Only usual signs of discomfort after the end of exposure were observed. Affected organs: not applicable. [Rat] (OECD 403)

Additional information on tests

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

No human data on effects after ingestion, skin or eye contact. See section 4 for first aid measures.

Practical experience

Observations relevant to classification

Dab with polyethylene glycol 400.

Other observations

Dab with polyethylene glycol 400.

Further information

Result: No signs of systemic toxicity were observed, no signs of any effects on development, reproduction, or fertility.

12. Ecological information

Ecotoxicity

Acute (short-term) fish toxicity: LC50: > 100 mg/l Exposure time: (96 h) Method: OECD 203
Acute Daphnia toxicity: EC50 > 100 mg/l Exposure time: (48 h) Method: OECD 202
Algae toxicity: EC50 > 100 mg/l Exposure time: (72 h) Method: OECD 201

Longterm fish toxicity: not determined
Chronic daphnia toxicity: not determined

Persistence and degradability

not determined; Product is inorganic.

Bioaccumulative potential

not determined; Product is inorganic.

Mobility in soil

not determined;

Other adverse effects

No adverse effects known.

13. Disposal considerations

Waste treatment methods

Disposal recommendations

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Contaminated packaging

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

14. Transport information

Marine transport (IMDG)

United Nations proper shipping name: No dangerous good in sense of these transport regulations.

Air transport (ICAO-TI/IATA-DGR)

United Nations proper shipping name: No dangerous good in sense of these transport regulations.

15. Regulatory information

Canadian regulations

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,3.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.