

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.sqlcarbon.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.

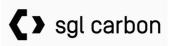
# 3. Composition/information on ingredients

### **Substances**

## **Chemical characterization**

Material based on Graphite

Sum formula: C
Molecular weight: 12



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#### 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.

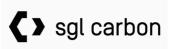
### Methods and material for containment and cleaning up

Take up mechanically.

## Reference to other sections

Additional information Carbonized polyacrylonitrile fiber 8 and 13

# 7. Handling and storage



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#### 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.

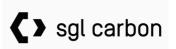
#### Skin protection

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.



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### **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: < 0,00045 g/L OECD 105 / EU A.6

(at 20 °C)

Partition coefficient: not applicable
Viscosity / dynamic: not applicable

Evaporation rate: not applicable (inorganic substance)

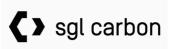
## Other information

Graphite dust with particles sizes from 4 to 40  $\mu$ m 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

#### <u>Conditions to avoid</u>

Graphite dust with particles sizes from 4 to 40  $\mu$ m 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)



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#### 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:

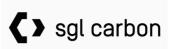
NOAEL: > 1000 mg/kg bw/day [Rat] (OECD 422.) Dose as nominal food intake, corresponding to limit dose acc. to OECD 422.

## Specific effects in experiment on an animal

STOT-SE

Based on available data the classification criteria are not met.

Acute toxicity, oral:



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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.

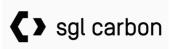
### 14. Transport information

### Marine transport (IMDG)

<u>United Nations proper shipping</u>
<u>name:</u>

No dangerous good in sense of these transport regulations.

Air transport (ICAO-TI/IATA-DGR)



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United Nations proper shipping

No dangerous good in sense of these transport regulations.

name:

## 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.