

according to Regulation (EC) No 1907/2006

SIGRAFLEX® Foil

Print date: 09.11.2012

Product code: OB_MEI2001002

Revision date: 26.09.2012

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

SIGRAFLEX® Foil

REACH Registration Number: 01-2119486977-12-0000
CAS No: 7782-42-5
EC No: 231-955-3

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

Material for packing and gasketing applications.
Insulation for use in vacuum and inert gas furnaces.
Structural elements, Furnace Heating Elements, Heat Treat Charge Carriers, Chemical Process Technology, Electronic Applications
Use as an article (high temperature applications) --> Heater, Shielding and thermal management

Uses advised against

none

1.3. Details of the supplier of the safety data sheet

Company name: SGL CARBON GmbH
Location: Meitingen (GS)
Street: Werner-von-Siemens.Str. 18
Place: D-86405 Meitingen
Telephone: +49 (0)8271-83-0 Telefax: +49 (0)8271-83-2466
Contact person: Abteilung Arbeitssicherheit & Telephone: +49 (0) 8271-83-1512
Umweltschutz (EHS)
e-mail: MSDS_Meitingen@sglcarbon.de
Internet: http://www.sglgroup.com
Responsible Department: Abteilung Arbeitssicherheit & Umweltschutz (EHS)

1.4. Emergency telephone: +49 (0) 08271-83-1200**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

This substance is not classified as dangerous according to Directive 67/548/EEC.

GHS classification

This substance is not classified as dangerous according to Regulation (EC) No. 1272/2008.

2.2. Label elements**2.3. Other hazards**

High slip hazard because of leaking or spilled product. Graphite dusts could cause an electrical short.

SECTION 3: Composition/information on ingredients**3.1. Substances**

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Chemical characterization

Article based on expanded graphite
EC-no. (EINECS/ELINCS): 231-955-3;
CAS-No.: 7782-42-5;
concentration: > 94 % by weight;
dangerous contamination: none

REACH Article 33 (SVHC): This Product contains no chemical substance, that is listed in Article 59 (1, 10) of Regulation (EC) No. 1907/2006.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

none

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 large quantities of water.

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

none

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

none

SECTION 5: Firefighting measures**5.1. 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).

Extinguishing media which must not be used for safety reasons

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon dioxide (CO₂). Carbon monoxide. Sulphur dioxide (SO₂)..
Fire class A: Solid material fires, mainly of organic nature, that normally burn with formation of embers.

5.3. Advice for firefighters

In case of insufficient ventilation, wear suitable respiratory equipment.

Additional information

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

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Avoid generation of dust.
Wear personal protection equipment.

6.2. Environmental precautions

none

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6.3. Methods and material for containment and cleaning up

Collect mechanically.

6.4. Reference to other sections

Additional information: Section 8 and 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

High slip hazard because of leaking or spilled product.

Advice on protection against fire and explosion

Dust should be vacuumed up immediately at the place it occurs.

Further remarks: Section 9 (Explosive properties:)

Further information on handling

Section 8.2 "General protection and hygiene measures."

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

none

Advice on storage compatibility

none

Further information on storage conditions

none

7.3. Specific end use(s)

none

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Additional advice on limit values**

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. [EN 14387]

Worker, industry, and Worker, professional. :
DNEL/DMEL (inhalation.) : 1,2 mg/m³Consumer 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.

8.2. Exposure controls**Occupational exposure controls**"Dust: 10 mg/m³ (inhalable); 3 mg/m³ (alveolar) [TRGS 900]"
Procedures to check the limit monitoring: [DIN EN 481].**Protective and hygiene measures**Do not eat, drink, smoke or sneeze at the workplace.
Wash hands before breaks and at the end of work.

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Respiratory protection

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. [EN 14387]

Hand protection

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

Eye protection

Dust protection goggles. [EN 166]

Skin protection

none

Environmental exposure controls

none

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state: solid
 Colour: grey / black
 Odour: none/none

Test method

pH-Value: 4.5 - 7.0

Changes in the physical state

Melting point: > 600 °C OECD 102
 Boiling point: not applicable
 Sublimation point: 3652 - 3698 °C CRC Handbook of Chemics
 Softening point: not applicable
 Flash point: not applicable

Flammability

Solid: EU A.10
 Non-flammable.

Explosive properties

not explosive.

Lower explosion limits: none

Upper explosion limits: none

Auto-ignition temperature

Solid: none

Oxidizing properties

none

Vapour pressure: not applicable

Density (at 20 °C): 0.002 - 0.1 g/cm³ -

Water solubility:
 (at 20 °C) none/none -

Partition coefficient: not applicable

Viscosity / dynamic: not applicable

Evaporation rate: not applicable (inorganic substance)

9.2. 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.,

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2003)

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SECTION 10: Stability and reactivity**10.1. Reactivity**

none

10.2. Chemical stability

No adverse effects known.

10.3. Possibility of hazardous reactions

none

10.4. 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)

10.5. Incompatible materials

none

10.6. Hazardous decomposition products

none

Further information

none

SECTION 11: Toxicological information**11.1. 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, inhalant: LD50: (4h) > 2000 mg/m³ Air. [Rat.] (OECD 403)
Dose limit according to CLP.

Specific effects in experiment on an animal

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

Acute toxicity, oral: Specific effects: none ; Affected organs: not applicable. [Rat.] (OECD 423)
Acute toxicity, inhalant: Specific effects: Only usual signs of discomfort after the end of exposure were observed.

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: none, Affected organs: not applicable. [Rat.] (OECD 422.)
Subacute inhalative toxicity:
Specific effects: Wet lung weight was increased. Minor histopathological findings in the lung and nasal cavity. Affected organs: Irritating to respiratory system. [Rat.] (OECD 412.)

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data the classification criteria are not met.

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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 MAK, 2001)

Reproductive toxicity:

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

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.

Empirical data on effects on humans

none

none

Further information

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

SECTION 12: Ecological information**12.1. Toxicity**

Acute 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

12.2. Persistence and degradability

not determined; Product is inorganic.

12.3. Bioaccumulative potential

not determined; Product is inorganic.

12.4. Mobility in soil

not determined;

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No negative ecological effects publicized.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

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.

SECTION 14: Transport information

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Land transport (ADR/RID)**14.2. UN proper shipping name:** Not a hazardous material with respect to these transportation regulations.**Inland waterways transport****14.2. UN proper shipping name:** Not a hazardous material with respect to these transportation regulations.**Marine transport****14.2. UN proper shipping name:** Not a hazardous material with respect to these transportation regulations.**Air transport****14.2. UN proper shipping name:** Not a hazardous material with respect to these transportation regulations.**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water contaminating class (D): - - not water contaminating

15.2. Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information**Abbreviations and acronyms**

"A - Alveolengängig; ADR - Accord européen relatif au transport international des marchandises Dangereuses par Route; bw - Body Weight; CAS - Chemical Abstract Service; CSR - Chemical Safety Report; DFG Deutsche Forschungsgemeinschaft; DIN - Deutsche Industrie Norm; DNEL - Derived No Effect Level; E - Einatembare; EAKV - Europäischer Abfallkatalog Verordnung; EC - Effective Concentration; EC - Effect Concentration European Commission; EINECS - European Inventory of Existing Commercial Chemical Substances; ELINCS - European List of Notified Chemical Substances; EN - Europäische Norm; LC - Lethal Concentration; LD - Lethal Dosis; NOAEL - No Observed Adverse Effect Level; OECD - Organization for Economic Cooperation and Development; PBT - Persistent, Bioaccumulative and Toxic; RE - Repeated Exposure; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals;"

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.