

according to Regulation (EC) No 1907/2006

**SIGRACET® - Type index AB or BA upwards (gas diffusion media - GDL)**

Print date: 13.02.2018

Product code: OB\_MEI7031003

Revision date: 21.12.2017

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

SIGRACET® - Type index AB or BA upwards (gas diffusion media - GDL)

**Further trade names**

Raw material for production of Carbon fiber-reinforced plastics.

Product group: fibers

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

Employment in fuel cell.

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

Company name:	SGL CARBON GmbH	
	Location: Meitingen (C&I)	
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 & Umweltschutz (EHS)	Telephone: +49 (0)8271-83-1512
e-mail:	MSDS_Meitingen@sglcarbon.de	
Internet:	<a href="http://www.sglgroup.com">http://www.sglgroup.com</a>	
Responsible Department:	Abteilung Arbeitssicherheit & Umweltschutz (EHS)	

**1.4. Emergency telephone number:**

+49 (0)8271-83-1200

**Further Information**

04.06.2014 Indication of changes: Section 8.2 [TRGS 900, Germany]

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

Classification according to Regulation (EC) No 1272/2008 [CLP]: not relevant

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

Carbon fibers themselves are not classified as hazardous.

However, in processing carbon fiber-reinforced materials (e.g. sawing, grinding, milling) fibrous particles can be released, which fulfill the WHO criteria for respirability, i.e. these fragments can penetrate the alveoli. Such fibers are classified under Technical Regulation for Hazardous Substances (TRGS) 905 as a category 3 carcinogenic substance (suspected carcinogenic substances). For this reason, suitable measures to minimize exposure must be implemented (enclosure and extraction). Assessment of the possible exposure at the workplace must be carried out by the user.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Chemical characterization**

Article based on Carbon fibers (CAS 7440-44-0) with 3-30 % Polytetrafluoroethylene (PTFE). (CAS 9002-84-0)

REACH Article 33 (SVHC): This Product does not contain chemical substances in concentration &gt; 0.1%, listed in Article 59 (1, 10) of Regulation (EC) No. 1907/2006

**SECTION 4: First aid measures**

according to Regulation (EC) No 1907/2006

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**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.

Fibers may cause skin irritation.

**After contact with eyes**

Rinse cautiously with water for several minutes.

**After ingestion**

Rinse mouth immediately and drink plenty 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 (CO<sub>2</sub>). Extinguishing powder Water spray**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide Release of organic decomposition products is possible.

A (Fires of solids, mainly organic nature, which normally burn down under glow forming.).

Polytetrafluorethylene decomposes above 380°C under release of poisonous compounds.

**5.3. Advice for firefighters**

In case of insufficient ventilation, wear suitable respiratory equipment. [EN 12021]

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

Avoid dust formation.

Wear personal protection equipment (refer to section 8). Avoid dust formation. Further remarks: Section 8

For emergency personal:

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

**6.2. Environmental precautions**

none

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

Take up mechanically.

**6.4. Reference to other sections**

Additional information Section 8 and 13

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

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**Advice on safe handling**

Further remarks:

DGUV-Information: Machining of CFRP-Materials (FB HM-074)

[www.bghm.de/arbeitsschuetzer/dokumentenbibliothek/gefahrstoffe.html](http://www.bghm.de/arbeitsschuetzer/dokumentenbibliothek/gefahrstoffe.html)**Advice on protection against fire and explosion**

Dust should be exhausted directly at the point of origin.

Further remarks: Section 9 (Other information)

**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 exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Worker, industry. and Worker, professional. :

DNEL/DMEL (inhalation.) : 10 mg/m<sup>3</sup>**8.2. Exposure controls****Appropriate engineering controls**"Dust: 10 mg/m<sup>3</sup> (inhalable); 1.25 mg/m<sup>3</sup> (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.

Do not use a brush or compressed air for cleaning surfaces or clothing. Use approved industrial vacuum cleaner for removal.

Protect skin by using skin protective cream.

**Eye/face protection**

Dust protection goggles.

**Hand protection**

Suitable gloves type:

NR (natural rubber, natural latex) NBR (Nitrile rubber) Butyl caoutchouc (butyl rubber)

**Skin protection**

Recommendation Protective suit.

**Respiratory protection**

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. [EN 14387]

Half-face mask or quarter facepiece: maximum use concentration for substances with exposure limits: P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 10 times the exposure limit. P3 filter: up to a max. of 30 times the expo.

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

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

**Test method**

pH-Value: not applicable

**Changes in the physical state**

Melting point: not applicable  
 Initial boiling point and boiling range: not applicable  
 Sublimation point: not applicable  
 Softening point: not applicable  
 Flash point: not applicable

**Flammability**

Solid: not applicable

**Explosive properties**

not explosive.

Lower explosion limits: not applicable

Upper explosion limits: not applicable

Ignition temperature: none

**Auto-ignition temperature**

Solid: none

**Oxidizing properties**

none

Vapour pressure: not applicable

Density (at 20 °C): ~ 1.8 g/cm<sup>3</sup>Water solubility: 0.0047 g/L OECD 105 / EU A.6  
(at 20 °C)

Partition coefficient: not applicable

Viscosity / dynamic: not applicable

**9.2. Other information**

Carbon fibers are electrically conductive.

Carbon Fibre are non-combustible; DIN4102-1 (tested temperature: 1050 °C)

**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**

none

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**10.5. Incompatible materials**

none

**10.6. Hazardous decomposition products**

none

**Further information**

none

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

No toxic data available.

Diameter of the fibers = 7 µm, do not fibrillize.

**Acute toxicity**

Based on available data the classification criteria are not met.

Acute toxicity (oral): LD50: &gt; 2000 mg/kg bw/day [Rat] (OECD 423)

Acute toxicity (dermal): No data available

Acute toxicity (inhalative): No data available

Subacute oral toxicity (Rat) OECD 422 :

859 mg/kg bw/day (male)

1051 mg/kg bw/day (female pre-mating)

994 mg/kg bw/day (female gestation)

1521 mg/kg bw/day (female lactation)

**Irritation and corrosivity**

Skin corrosion/irritation: Not an irritant. [Rat] (OECD 404)

Irritant effect on the eye: Not an irritant. [Rabbit] (OECD 405)

**Sensitising effects**

Respiratory or skin sensitisation:

**Severe effects after repeated or prolonged exposure**

STOT-RE

Based on available data the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data the classification criteria are not met.

**Aspiration hazard**

No data available

**Specific effects in experiment on an animal**

STOT-RE

Based on available data the classification criteria are not met.

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

Acute (short-term) fish toxicity: LC50: &gt; 100 mg/l Exposure time: (96 h) Method: OECD 203

Acute Daphnia toxicity: EC50 &gt; 100 mg/l Exposure time: (48 h) Method: OECD 202

Algae toxicity: EC50 &gt; 100 mg/l Exposure time: (72 h) Method: OECD 201

Bacterial toxicity: &gt; 1000 mg/l Exposure time: (3 h) Method: OECD 209

**12.2. Persistence and degradability**

not relevant

**12.3. Bioaccumulative potential**

not relevant

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**12.4. Mobility in soil**

No information available.

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

**12.6. Other adverse effects**

No adverse effects known.

**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****Land transport (ADR/RID)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**Inland waterways transport (ADN)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**Marine transport (IMDG)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**Air transport (ICAO-TI/IATA-DGR)****14.2. UN proper shipping name:** No dangerous good in sense of these transport 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): 1 - slightly water contaminating

**Additional information**

The "Minimum standards for non respirable fibres" according to German technical rule TRGS 521 Nummer 4 apply.

registration status:

All components of this product are included on the inventories of, or are not required to be listed on the inventories of:

EU --&gt; EINECS/ELINCS

USA --&gt; TSCA

CAN --&gt; DSL

JPN --&gt; ENCS (Class 1 &amp; 2)

CHN --&gt; IECS

KOR --&gt; KECI

AUS --&gt; AICS

NZL --&gt; NZIoC / HSNO

**SECTION 16: Other information**

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**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 - Einatembar; 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;" "RID - Règlement concernant le transport international ferroviaire de marchandises dangereuses; SE - Single Exposure; STOT - Specific Target Organ Toxicity; TA - Technische Anleitung; UN - United Nations; VCI - Verband der Chemischen Industrie; vPvB - Very Persistent and very Bioaccumulative; VwVwS - Verwaltungsvorschrift wassergefährdender Stoffe;"

**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.

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*