

according to UK REACH Regulation

**SIGRAPREG® C U150-0/NF-E340/38%**

Print date: 12.09.2021

Product code: OB\_WIL1946678

Revision date: 22.01.2021

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

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

Material for CFRP-components.

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

|                         |                               |                                |
|-------------------------|-------------------------------|--------------------------------|
| Company name:           | SGL epo GmbH                  |                                |
|                         | Location: Willich             |                                |
| Street:                 | Siemensring 24                |                                |
| Place:                  | D-47877 Willich               |                                |
| Telephone:              | +49 (0)2154-9238-0            | Telefax: +49 (0)2154-9238-44   |
| e-mail:                 | markus.wezstein@sglcarbon.com |                                |
| Contact person:         | Dr. Markus Wezstein           | Telephone: +49 (0)2154-9238-28 |
| e-mail:                 | markus.wezstein@sglcarbon.com |                                |
| Internet:               | www.sglcarbon.com             |                                |
| Responsible Department: | Technical Marketing           |                                |

**1.4. Emergency telephone number:**

+49 (0) 89 19240 (Giftnotruf - TU München)  
+49 (0)2154-9238-0  
8:00 - 18:00 Uhr

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

Hazard categories:

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1

Germ cell mutagenicity: Muta. 2

Carcinogenicity: Carc. 2

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Harmful in contact with skin.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

Suspected of causing cancer.

Toxic to aquatic life with long lasting effects.

**2.2. Label elements****GB CLP Regulation****Hazard components for labelling**

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight &lt;= 700)

N,N,N',N'-tetraglycidyl-4,4'-diamino-3,3'-diethyldiphenylmethane

4,4'-Isopropylidenediphenol, polymer with 1-chloro-2,3-epoxypropane MW &gt; 700

monuron (ISO); 3-(4-chlorophenyl)-1,1-dimethylurea

1,4-bis(2,3 epoxypropoxy)butane; butanedioldiglycidyl ether

**Signal word:** Warning

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**Pictograms:****Hazard statements**

|      |  |
|------|--|
| H312 | Harmful in contact with skin.                      |
| H315 | Causes skin irritation.                            |
| H320 | Causes eye irritation.                             |
| H317 | May cause an allergic skin reaction.               |
| H341 | Suspected of causing genetic defects.              |
| H351 | Suspected of causing cancer.                       |
| H412 | Harmful to aquatic life with long lasting effects. |

**Precautionary statements**

|           |   |
|-----------|---|
| P261      | Avoid breathing dust/fume/gas/mist/vapours/spray.   |
| P273      | Avoid release to the environment.   |
| P280      | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of water.  |
| P362+P364 | Take off contaminated clothing and wash it before reuse.                                      |
| P391      | Collect spillage.   |

**2.3. Other hazards**

The product is skin resorptive.

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

Modified epoxy resin in B-stage on aramid-, carbon- or glass fabric

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**Hazardous components**

| CAS No     | Chemical name  |              |                  | Quantity    |
|------------|--|--------------|------------------|-------------|
|            | EC No  | Index No     | REACH No         |             |
|            | GHS Classification   |              |                  |             |
| 25068-38-6 | reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) |              |                  | 10 - < 15 % |
|            | 500-033-5  | 603-074-00-8 |                  |             |
|            | Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411                    |              |                  |             |
| 28768-32-3 | 4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]; (TGMDA)  |              |                  | 5 - < 10 %  |
|            | 249-204-3  |              | 01-2119472303-45 |             |
|            | Muta. 2, Skin Sens. 1, Aquatic Chronic 2; H341 H317 H411   |              |                  |             |
| 25036-25-3 | 4,4'-Isopropylidenediphenol, polymer with 1-chloro-2,3-epoxypropane MW > 700                         |              |                  | 1 - < 5 %   |
|            | 607-500-3  |              |                  |             |
|            | Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H315 H319 H317  |              |                  |             |
| 150-68-5   | monuron (ISO); 3-(4-chlorophenyl)-1,1-dimethylurea   |              |                  | < 1 %       |
|            | 205-766-1  | 006-042-00-6 |                  |             |
|            | Carc. 2, Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 1; H351 H302 H400 H410                       |              |                  |             |
| 2425-79-8  | 1,4-bis(2,3 epoxypropoxy)butane; butanedioldiglycidyl ether  |              |                  | < 1 %       |
|            | 219-371-7  | 603-072-00-7 |                  |             |
|            | Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H332 H312 H315 H319 H317      |              |                  |             |

Full text of H and EUH statements: see section 16.

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

Change contaminated clothing. In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation**

Provide fresh air. In case of troubles or persistent symptoms, consult an ophthalmologist.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, seek medical treatment.

**After contact with eyes**

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

**After ingestion**

Do NOT induce vomiting. Call a physician in any case!

**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**

Carbon dioxide (CO<sub>2</sub>). Extinguishing powder water spray alcohol resistant foam.

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**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**Special exposure hazards arising from the substance itself, combustion products, resulting gases: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide Nitrogen oxides (NO<sub>x</sub>). Hydrogen chloride (HCl). Pyrolysis products, toxic.**5.3. Advice for firefighters**

Special protective equipment for firefighters Wear a self-contained breathing apparatus and chemical protective clothing.

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

Provide adequate ventilation.

**6.2. Environmental precautions**

No special environmental protection measures are necessary. Do not allow to enter into soil/subsoil.

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

Take up mechanically, placing in appropriate containers for disposal.

**6.4. Reference to other sections**

none

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

Ensure adequate ventilation of the storage area.

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

**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**

Ensure adequate ventilation of the storage area.

**Hints on joint storage**

Do not store together with: Food and fodder, Etchant and acids, Alkali (lye), Oxidizing agents.

**Further information on storage conditions**

Protect against: heat. Light.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

| CAS No    | Substance                | ppm | mg/m <sup>3</sup> | fibres/ml | Category  | Origin |
|-----------|--------------------------|-----|-------------------|-----------|-----------|--------|
| 7440-44-0 | Graphite, inhalable dust | -   | 10                |           | TWA (8 h) | WEL    |

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**DNEL/DMEL values**

| CAS No     | Substance  | Exposure route | Effect   | Value                  |
|------------|--|----------------|----------|------------------------|
| 25068-38-6 | reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) |                |          |                        |
|            | Consumer DNEL, long-term   | inhalation     | systemic | 0.75 mg/m <sup>3</sup> |
|            | Consumer DNEL, long-term   | oral           | systemic | 0.75 mg/kg bw/day      |
|            | Worker DNEL, acute   | dermal         | systemic | 8.3 mg/kg bw/day       |
|            | Worker DNEL, acute   | inhalation     | systemic | 12.3 mg/m <sup>3</sup> |
|            | Worker DNEL, long-term   | dermal         | systemic | 8.3 mg/kg bw/day       |
|            | Worker DNEL, long-term   | inhalation     | systemic | 12.3 mg/m <sup>3</sup> |
|            | Consumer DNEL, acute   | dermal         | systemic | 3.6 mg/kg bw/day       |
|            | Consumer DNEL, acute   | inhalation     | systemic | 0.75 mg/m <sup>3</sup> |
|            | Consumer DNEL, acute   | oral           | systemic | 0.75 mg/kg bw/day      |
|            | Consumer DNEL, long-term   | dermal         | systemic | 3.6 mg/kg bw/day       |
| 28768-32-3 | 4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]; (TGMDA)  |                |          |                        |
|            | Worker DNEL, long-term   | dermal         | systemic | 0,5 mg/kg bw/day       |

**PNEC values**

| CAS No     | Substance  | Value       |
|------------|--|-------------|
| 25068-38-6 | reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) |             |
|            | Freshwater   | 0.003 mg/l  |
|            | Marine water   | 0.0003 mg/l |
|            | Marine water (intermittent releases)   | 0.013 mg/l  |
|            | Freshwater sediment  | 0.5 mg/kg   |
|            | Marine sediment  | 0.5 mg/kg   |
|            | Micro-organisms in sewage treatment plants (STP)   | 10 mg/l     |
|            | Soil   | 0.05 mg/kg  |
| 28768-32-3 | 4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]; (TGMDA)  |             |
|            | Freshwater   | 0,005 mg/l  |
|            | Marine water   | 0 mg/l      |
|            | Freshwater sediment  | 0,017 mg/kg |
|            | Soil   | 0,011 mg/kg |

**8.2. Exposure controls****Appropriate engineering controls**

no restriction.

**Protective and hygiene measures**

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Additional protection measures for the hands: Protect skin by using skin protective cream. Avoid contact with skin, eyes and clothes.

**Eye/face protection**

Tightly sealed safety glasses. (DIN EN 166)

**Hand protection**

Butyl caoutchouc (butyl rubber), &gt;120min (EN ISO 374)

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**Skin protection**

Only wear fitting, comfortable and clean protective clothing.

**Respiratory protection**

With correct and proper use, and under normal conditions, breathing protection is not required.

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

|                 |              |
|-----------------|--------------|
| Physical state: | semi-solid   |
| Colour:         | not relevant |
| Odour:          | neutral      |

**Test method****Changes in the physical state**

|   |                |
|---|----------------|
| Melting point/freezing point:                             | <23 °C         |
| Boiling point or initial boiling point and boiling range: | not applicable |
| Sublimation point:  | not applicable |
| Softening point:  | not applicable |
| Curing temperature of the prepreg::                       | >80 °C         |
| Flash point:  | > 300°C °C     |

**Flammability**

|                            |   |
|----------------------------|---|
| Solid:                     | not applicable                          |
| Lower explosion limits:    | not applicable                          |
| Upper explosion limits:    | not applicable                          |
| Auto-ignition temperature: | not determined                          |
| Decomposition temperature: | not determined                          |
| Density (at 20 °C):        | 1.45 - 1.65 g/cm <sup>3</sup> DIN 53217 |
| Water solubility:          | not determined                          |

**9.2. Other information**

Decomposition temperature (°C): &gt; 300 - 350°C ( in air )

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

No decomposition if used according to specifications.

**10.2. Chemical stability**

Reaction takes place at temperatures above: 80°C

**10.3. Possibility of hazardous reactions**

Exothermic reactions with: acid. Base.

**10.4. Conditions to avoid**

Protect against direct sunlight. heat.

**10.5. Incompatible materials**

Keep in a cool place away from acids. Keep in a cool place away from alkali.

**10.6. Hazardous decomposition products**

Thermal decomposition can lead to the escape of irritating gases and vapours.

**Further information**

Keep in a cool place. (&lt; 8°C)

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**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.

**ATEmix tested**

|              | Dose         | Species | Source |
|--------------|--------------|---------|--------|
| LD50, oral   | 100000 mg/kg | Rat     |        |
| LD50, dermal | 2000 mg/kg   | Rat     |        |

**Acute toxicity**

| CAS No     | Chemical name  |        |              |               |        |
|------------|--|--------|--------------|---------------|--------|
|            | Exposure route   | Method | Dose         | Species       | Source |
| 25068-38-6 | reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) |        |              |               |        |
|            | oral   | LD50   | 30000 mg/kg  | Rat           |        |
|            | dermal   | LD50   | > 2000 mg/kg | Daphnia magna |        |
| 28768-32-3 | 4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]; (TGMDA)  |        |              |               |        |
|            | oral   | LD50   | > 5000 mg/kg | Mouse.        | ECHA   |
|            | dermal   | LD50   | > 3000 mg/kg | Rabbit        | ECHA   |
|            | inhalation (4 h) vapour  | LC50   | > 0,03 mg/l  | Rat           | ECHA   |
| 150-68-5   | monuron (ISO); 3-(4-chlorophenyl)-1,1-dimethylurea   |        |              |               |        |
|            | oral   | ATE    | 500 mg/kg    |               |        |
| 2425-79-8  | 1,4-bis(2,3 epoxypropoxy)butane; butanedioldiglycidyl ether  |        |              |               |        |
|            | dermal   | ATE    | 1100 mg/kg   |               |        |
|            | inhalation (0 h) vapour  | ATE    | 11 mg/l      |               |        |
|            | inhalation (0 h) aerosol   | ATE    | 1,5 mg/l     |               |        |

**Severe effects after repeated or prolonged exposure**

No toxic data available.

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

No toxic data available.

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

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| CAS No     | Chemical name  |        |           |           |                                 |          |
|------------|--|--------|-----------|-----------|---------------------------------|----------|
|            | Aquatic toxicity   | Method | Dose      | [h]   [d] | Species                         | Source   |
| 25068-38-6 | reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) |        |           |           |                                 |          |
|            | Acute fish toxicity  | LC50   | 1.3 mg/l  | 96 h      | Oncorhynchus mykiss             | OECD 203 |
|            | Acute algae toxicity   | ErC50  | > 11 mg/l | 72 h      |                                 |          |
|            | Acute crustacea toxicity   | EC50   | 2.1 mg/l  | 48 h      | Daphnia magna                   | OECD 202 |
|            | Crustacea toxicity   | NOEC   | 0.3 mg/l  | 21 d      | Daphnia magna                   | OECD 211 |
| 28768-32-3 | 4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]; (TGMDA)  |        |           |           |                                 |          |
|            | Acute fish toxicity  | LC50   | 7 mg/l    | 96 h      | Fish                            | ECHA     |
|            | Acute algae toxicity   | ErC50  | 4,8 mg/l  |           | Pseudokirchneriella subcapitata | ECHA     |
|            | Acute crustacea toxicity   | EC50   | 6,7 mg/l  | 48 h      | Daphnia magna                   | ECHA     |

**12.2. Persistence and degradability**

Product is biodegradable with difficulty.

**12.3. Bioaccumulative potential**

not determined

**12.4. Mobility in soil**

not determined

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

not determined

**12.6. Other adverse effects**

none

**Further information**

No negative ecological effects publicized.

Do not allow to enter into soil/subsoil.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Remove according to the regulations.

**List of Wastes Code - residues/unused products**

040209 WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES; wastes from the textile industry; wastes from composite materials (impregnated textile, elastomer, plastomer)

**List of Wastes Code - used product**

070213 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; waste plastic

**List of Wastes Code - contaminated packaging**

040209 WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES; wastes from the textile industry; wastes from composite materials (impregnated textile, elastomer, plastomer)

**Contaminated packaging**

Packing which cannot be properly cleaned must be disposed of.

Non-contaminated packages may be recycled.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.2. UN proper shipping name:**

No dangerous good in sense of these transport regulations.



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**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.**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

none

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

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**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information****Additional information**

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

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D): 1 - slightly hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,2,3,8.

**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;"

**Relevant H and EUH statements (number and full text)**

|      |                                      |
|------|--------------------------------------|
| H302 | Harmful if swallowed.                |
| H312 | Harmful in contact with skin.        |
| H315 | Causes skin irritation.              |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation.       |
| H320 | Causes eye irritation.               |

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|      |   |
|------|---|
| H332 | Harmful if inhaled.                                   |
| H341 | Suspected of causing genetic defects.                 |
| H351 | Suspected of causing cancer.                          |
| H400 | Very toxic to aquatic life.                           |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects.      |
| H412 | Harmful to aquatic life with long lasting effects.    |

**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.)*