



## FiberWeld Permanent Repair Cast

### J-B Weld Company LLC

Version No: 9.30.4.7

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: 06/24/2021

Print Date: 06/24/2021

S.GHS.USA.EN

#### SECTION 1 Identification

##### Product Identifier

|                               |   |
|-------------------------------|---|
| Product name                  | FiberWeld Permanent Repair Cast         |
| Synonyms                      | 38236 (FiberWeld Permanent Repair Cast) |
| Other means of identification | Not Available                           |

##### Recommended use of the chemical and restrictions on use

|                          |        |
|--------------------------|--------|
| Relevant identified uses | Repair |
|--------------------------|--------|

##### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

|                         |   |  |
|-------------------------|---|--|
| Registered company name | J-B Weld Company LLC                                |  |
| Address                 | 400 CMH Road Sulphur Springs TX 75482 United States |  |
| Telephone               | 903-885-7696  |  |
| Fax                     | 903-885-5911  |  |
| Website                 | <a href="http://WWW.JBWeld.com">WWW.JBWeld.com</a>  |  |
| Email                   | info@JBWeld.com                                     |  |

##### Emergency phone number

|                                   |   |  |
|-----------------------------------|---|--|
| Association / Organisation        | InfoTrac  |  |
| Emergency telephone numbers       | Transportation Emergencies: 800-535-5053 or (24 hours)              |  |
| Other emergency telephone numbers | Poison Control Centers: Medical Emergencies 800-222-1222 (24 hours) |  |

#### SECTION 2 Hazard(s) identification

##### Classification of the substance or mixture

|                |  |
|----------------|--|
| Classification | Respiratory Sensitizer Category 1, Specific target organ toxicity - repeated exposure Category 2, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Skin Sensitizer Category 1 |
|----------------|--|

##### Label elements

|                     |  |
|---------------------|--|
| Hazard pictogram(s) |  |
|---------------------|--|

|             |        |
|-------------|--------|
| Signal word | Danger |
|-------------|--------|

##### Hazard statement(s)

|      |  |
|------|--|
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled.                           |
| H373 | May cause damage to organs through prolonged or repeated exposure. (Respiratory system) (Inhalation) |
| H332 | Harmful if inhaled.  |
| H315 | Causes skin irritation.  |
| H317 | May cause an allergic skin reaction.   |

##### Hazard(s) not otherwise classified

Not Applicable

##### Supplementary statement(s)

Not Applicable

## FiberWeld Permanent Repair Cast

## Precautionary statement(s) Prevention

|      |  |
|------|--|
| P260 | Do not breathe dust/fume.  |
| P271 | Use only outdoors or in a well-ventilated area.                        |
| P280 | Wear protective gloves and protective clothing.                        |
| P285 | In case of inadequate ventilation wear respiratory protection.         |
| P264 | Wash all exposed external body areas thoroughly after handling.        |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

## Precautionary statement(s) Response

|           |  |
|-----------|--|
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P342+P311 | If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.                  |
| P362      | Take off contaminated clothing and wash before reuse.  |
| P302+P352 | IF ON SKIN: Wash with plenty of water and soap.  |
| P312      | Call a POISON CENTER or doctor/physician if you feel unwell.                                     |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention.                                 |

## Precautionary statement(s) Storage

Not Applicable

## Precautionary statement(s) Disposal

|      |  |
|------|--|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|--|

## SECTION 3 Composition / information on ingredients

## Substances

See section below for composition of Mixtures

## Mixtures

| CAS No      | %[weight] | Name   |
|-------------|-----------|--|
| 67815-87-6  | 20-30     | <u>MDI/ propylene glycol/ ethylenediamine propoxylated</u> |
| 101-68-8    | 5-10      | <u>4,4'-diphenylmethane diisocyanate (MDI)</u>             |
| 9016-87-9   | 1-5       | <u>polymeric diphenylmethane diisocyanate</u>              |
| 26447-40-5  | 0.1-1     | <u>diphenylmethane diisocyanate (MDI) mixed isomers</u>    |
| 136855-71-5 | 0.1-1     | <u>N,N-dibenzylidene polyoxypropylene diamine</u>          |
| 112-80-1    | 0.1-1     | <u>oleic acid</u>  |
| 1317-61-9   | 0.1-1     | <u>C.I. Pigment Black 11</u>                               |
| 65997-17-3  | 50-80     | <u>glass fibre - from continuous filament</u>              |

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

## SECTION 4 First-aid measures

## Description of first aid measures

|              |   |
|--------------|---|
| Eye Contact  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>Wash out immediately with fresh running water.</li> <li>Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>   |
| Skin Contact | <ul style="list-style-type: none"> <li>Gently brush or vacuum off adherent fibres.</li> <li>Wash affected areas thoroughly with water (and soap if available).</li> <li>Seek medical attention if irritation exists and persists.</li> </ul> <p>For thermal burns:</p> <ul style="list-style-type: none"> <li>Decontaminate area around burn.</li> <li>Consider the use of cold packs and topical antibiotics.</li> </ul> <p>For first-degree burns (affecting top layer of skin)</p> <ul style="list-style-type: none"> <li>Hold burned skin under cool (not cold) running water or immerse in cool water until pain subsides.</li> <li>Use compresses if running water is not available.</li> <li>Cover with sterile non-adhesive bandage or clean cloth.</li> <li>Do NOT apply butter or ointments; this may cause infection.</li> <li>Give over-the counter pain relievers if pain increases or swelling, redness, fever occur.</li> </ul> <p>For second-degree burns (affecting top two layers of skin)</p> <ul style="list-style-type: none"> <li>Cool the burn by immerse in cold running water for 10-15 minutes.</li> <li>Use compresses if running water is not available.</li> <li>Do NOT apply ice as this may lower body temperature and cause further damage.</li> <li>Do NOT break blisters or apply butter or ointments; this may cause infection.</li> <li>Protect burn by cover loosely with sterile, nonstick bandage and secure in place with gauze or tape.</li> </ul> <p>To prevent shock: (unless the person has a head, neck, or leg injury, or it would cause discomfort):</p> <ul style="list-style-type: none"> <li>Lay the person flat.</li> <li>Elevate feet about 12 inches.</li> </ul> |

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|            |   |
|------------|---|
|            | <ul style="list-style-type: none"> <li>▸ Elevate burn area above heart level, if possible.</li> <li>▸ Cover the person with coat or blanket.</li> <li>▸ Seek medical assistance.</li> </ul> <p>For third-degree burns<br/>Seek immediate medical or emergency assistance.</p> <p>In the mean time:</p> <ul style="list-style-type: none"> <li>▸ Protect burn area cover loosely with sterile, nonstick bandage or, for large areas, a sheet or other material that will not leave lint in wound.</li> <li>▸ Separate burned toes and fingers with dry, sterile dressings.</li> <li>▸ Do not soak burn in water or apply ointments or butter; this may cause infection.</li> <li>▸ To prevent shock see above.</li> <li>▸ For an airway burn, do not place pillow under the person's head when the person is lying down. This can close the airway.</li> <li>▸ Have a person with a facial burn sit up.</li> <li>▸ Check pulse and breathing to monitor for shock until emergency help arrives.</li> </ul>   |
| Inhalation | <ul style="list-style-type: none"> <li>▸ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▸ Lay patient down. Keep warm and rested.</li> <li>▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▸ Transport to hospital, or doctor.</li> </ul> <p>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.</p> <ul style="list-style-type: none"> <li>▸ If dust is inhaled, remove from contaminated area.</li> <li>▸ Encourage patient to blow nose to ensure clear breathing passages.</li> <li>▸ Ask patient to rinse mouth with water but to not drink water.</li> <li>▸ Seek immediate medical attention.</li> </ul> |
| Ingestion  | <ul style="list-style-type: none"> <li>▸ Immediately give a glass of water.</li> <li>▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> </ul>   |

## Most important symptoms and effects, both acute and delayed

See Section 11

## Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For sub-chronic and chronic exposures to isocyanates:

- This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
- Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
- Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
- Some cross-sensitivity occurs between different isocyanates.
- Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
- Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
- Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- There is no effective therapy for sensitised workers.

[Ellenhorn and Barceloux; Medical Toxicology]

**NOTE:** Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity.

[Karol &amp; Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]

Personnel who work with isocyanates, isocyanate prepolymers or polyisocyanates should have a pre-placement medical examination and periodic examinations thereafter, including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitisation conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. Further exposure must be avoided if a sensitivity to isocyanates or polyisocyanates has developed.

## SECTION 5 Fire-fighting measures

## Extinguishing media

- Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam.
- Presents additional hazard when fire fighting in a confined space.
- Foam.
- Dry chemical powder.

## Special hazards arising from the substrate or mixture

|                      |  |
|----------------------|--|
| Fire Incompatibility | ▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|----------------------|--|

## Special protective equipment and precautions for fire-fighters

|                       |   |
|-----------------------|---|
| Fire Fighting         | <ul style="list-style-type: none"> <li>▸ Alert Fire Department and tell them location and nature of hazard.</li> <li>▸ Wear breathing apparatus plus protective gloves.</li> </ul>  |
| Fire/Explosion Hazard | <p>-Combustible.</p> <p>-Moderate fire hazard when exposed to heat or flame.</p> <p>Combustion products include:</p> <p>carbon monoxide (CO)</p> <p>carbon dioxide (CO2)</p> <p>isocyanates</p> <p>hydrogen cyanide</p> <p>and minor amounts of</p> |

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nitrogen oxides (NOx)  
hydrogen fluoride  
metal oxides  
other pyrolysis products typical of burning organic material.  
May emit corrosive fumes.

## SECTION 6 Accidental release measures

## Personal precautions, protective equipment and emergency procedures

See section 8

## Environmental precautions

See section 12

## Methods and material for containment and cleaning up

|              |  |
|--------------|--|
| Minor Spills | <ul style="list-style-type: none"><li>▶ Clean up all spills immediately.</li><li>▶ Avoid all personal contact, including inhalation.</li></ul>   |
| Major Spills | <p>For isocyanate spills of less than 40 litres (2 m2):</p> <ul style="list-style-type: none"><li>▶ Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible.</li><li>▶ Notify supervision and others as necessary.</li><li>▶ Avoid contamination with water, alkalies and detergent solutions.</li><li>▶ Material reacts with water and generates gas, pressurises containers with even drum rupture resulting.</li><li>▶ Clear area of personnel and move upwind.</li><li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li></ul> |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

## Precautions for safe handling

|                   |  |
|-------------------|--|
| Safe handling     | <ul style="list-style-type: none"><li>▶ The use of ceramic fibres in the work place should be reviewed in the context of frequency of use and potential for exposure.</li><li>▶ In circumstances where the respiratory standards or excursion limits are approached, work areas should be designated by the use of ropes or other similar barriers and appropriate signs be utilised, where possible.</li><li>▶ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions)</li><li>▶ Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.</li></ul> |
| Other information | <p>Consider storage under inert gas.</p> <ul style="list-style-type: none"><li>▶ Store in original containers.</li><li>▶ Keep containers securely sealed.</li></ul>  |

## Conditions for safe storage, including any incompatibilities

|                         |  |
|-------------------------|--|
| Suitable container      | <ul style="list-style-type: none"><li>▶ Polyethylene or polypropylene container.</li><li>▶ Check all containers are clearly labelled and free from leaks.</li></ul>  |
| Storage incompatibility | <ul style="list-style-type: none"><li>▶ Avoid storage and reaction with hydrofluoric or phosphoric acids and concentrated alkalis.</li><li>▶ Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride.</li><li>▶ These trifluorides are hypergolic oxidisers.</li></ul> <p>-Avoid reaction with water, alcohols and detergent solutions. Isocyanates are electrophiles, and as such they are reactive toward a variety of nucleophiles including alcohols, amines, and even water.</p> <ul style="list-style-type: none"><li>▶ A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.</li><li>▶ The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, rather than on a molar basis (J/g) be used in the assessment.</li></ul> |

## SECTION 8 Exposure controls / personal protection

## Control parameters

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

| Source   | Ingredient                              | Material name                        | TWA                    | STEL          | Peak  | Notes         |
|--|---|--------------------------------------|------------------------|---------------|---|---------------|
| US OSHA Permissible Exposure Limits (PELs) Table Z-1 | 4,4'-diphenylmethane diisocyanate (MDI) | Methylene bisphenyl isocyanate (MDI) | Not Available          | Not Available | 0.02 ppm / 0.2 mg/m3                          | Not Available |
| US NIOSH Recommended Exposure Limits (RELs)          | 4,4'-diphenylmethane diisocyanate (MDI) | Methylene bisphenyl isocyanate       | 0.005 ppm / 0.05 mg/m3 | Not Available | 0.020 (10-minute) ppm / 0.2 (10-minute) mg/m3 | Not Available |
| US ACGIH Threshold Limit Values (TLV)                | 4,4'-diphenylmethane diisocyanate (MDI) | Methylene bisphenyl isocyanate       | 0.005 ppm              | Not Available | Not Available                                 | Not Available |

## Emergency Limits

| Ingredient                              | TEEL-1     | TEEL-2        | TEEL-3        |
|---|------------|---------------|---------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | 0.45 mg/m3 | Not Available | Not Available |

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| Ingredient                                       | TEEL-1     | TEEL-2      | TEEL-3       |
|--|------------|-------------|--------------|
| 4,4'-diphenylmethane diisocyanate (MDI)          | 29 mg/m3   | 40 mg/m3    | 240 mg/m3    |
| polymeric diphenylmethane diisocyanate           | 0.15 mg/m3 | 3.6 mg/m3   | 22 mg/m3     |
| diphenylmethane diisocyanate (MDI) mixed isomers | 29 mg/m3   | 40 mg/m3    | 240 mg/m3    |
| oleic acid                                       | 220 mg/m3  | 2,400 mg/m3 | 15,000 mg/m3 |
| C.I. Pigment Black 11                            | 21 mg/m3   | 230 mg/m3   | 1,400 mg/m3  |
| glass fibre - from continuous filament           | 15 mg/m3   | 170 mg/m3   | 990 mg/m3    |


| Ingredient   | Original IDLH | Revised IDLH  |
|--|---------------|---------------|
| MDI/ propylene glycol/ ethylenediamine, propoxylated | Not Available | Not Available |
| 4,4'-diphenylmethane diisocyanate (MDI)              | 75 mg/m3      | Not Available |
| polymeric diphenylmethane diisocyanate               | Not Available | Not Available |
| diphenylmethane diisocyanate (MDI) mixed isomers     | Not Available | Not Available |
| N,N-dibenzylidene polyoxypropylene diamine           | Not Available | Not Available |
| oleic acid   | Not Available | Not Available |
| C.I. Pigment Black 11                                | Not Available | Not Available |
| glass fibre - from continuous filament               | Not Available | Not Available |

## Occupational Exposure Banding

| Ingredient   | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|--|-----------------------------------|----------------------------------|
| MDI/ propylene glycol/ ethylenediamine, propoxylated | E                                 | ≤ 0.1 ppm                        |
| polymeric diphenylmethane diisocyanate               | E                                 | ≤ 0.1 ppm                        |
| diphenylmethane diisocyanate (MDI) mixed isomers     | E                                 | ≤ 0.1 ppm                        |
| N,N-dibenzylidene polyoxypropylene diamine           | E                                 | ≤ 0.1 ppm                        |
| C.I. Pigment Black 11                                | E                                 | ≤ 0.01 mg/m³                     |
| glass fibre - from continuous filament               | E                                 | ≤ 0.01 mg/m³                     |

**Notes:** Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

## Exposure controls

|   |  |
|---|--|
| <b>Appropriate engineering controls</b> | <ul style="list-style-type: none"> <li>Provide good ventilation (either forced or natural)</li> <li>Where possible, enclose sources of dust and provide dust extraction at the source.</li> <li>Restrict access to work areas involved in handling man-made mineral fibres and ensure that adequate training, in the handling of such materials, has been provided.</li> <li>If measured respirable fibre is less than the recommended occupational exposure level, wear approved dust respirator Class P1 (half-face).</li> <li>Use a Class P2 or P3 respirator (full-face), where exposure is above the recommended occupational exposure level</li> <li>Use an approved respirator if power tools without dust extraction or containment are used.</li> </ul> <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> |
| <b>Personal protection</b>              |   |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>Safety glasses with side shields.</li> <li>Chemical goggles.</li> </ul>   |
| <b>Skin protection</b>                  | See Hand protection below  |
| <b>Hands/feet protection</b>            | <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <ul style="list-style-type: none"> <li>Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.</li> <li>Protective gloves and overalls should be worn as specified in the appropriate national standard.</li> </ul>   |

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|                         |  |
|-------------------------|--|
|                         | Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.<br>▶ polychloroprene.   |
| <b>Body protection</b>  | See Other protection below   |
| <b>Other protection</b> | <ul style="list-style-type: none"> <li>▶ Personnel involved in the installation of unbonded ceramic materials should wear disposable coveralls, or long-sleeve loose fitting clothing, gloves and suitable respirator. Such equipment should also be used by personnel employed in removing materials which have not become embrittled.</li> <li>▶ Disposable coveralls or long sleeve, loose fitting protective clothing, e.g. overalls (launder clothing separately from other clothing).</li> <li>▶ When working above head height, use head covering.</li> </ul> |

**Respiratory protection**

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

**SECTION 9 Physical and chemical properties****Information on basic physical and chemical properties**

|   |                                    |  |                |
|---|------------------------------------|--|----------------|
| <b>Appearance</b>                                   | Moisture sensitive.<br>Black Solid |  |                |
| <b>Physical state</b>                               | Solid                              | <b>Relative density (Water = 1)</b>            | Not Available  |
| <b>Odour</b>  | Not Available                      | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available                      | <b>Auto-ignition temperature (°C)</b>          | Not Available  |
| <b>pH (as supplied)</b>                             | Not Available                      | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | Not Available                      | <b>Viscosity (cSt)</b>                         | Not Available  |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available                      | <b>Molecular weight (g/mol)</b>                | Not Available  |
| <b>Flash point (°C)</b>                             | Not Available                      | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Available                      | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Not Available                      | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | Not Available                      | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Applicable |
| <b>Lower Explosive Limit (%)</b>                    | Not Available                      | <b>Volatile Component (%vol)</b>               | Not Available  |
| <b>Vapour pressure (kPa)</b>                        | Not Available                      | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water</b>                          | Immiscible                         | <b>pH as a solution (%)</b>                    | Not Available  |
| <b>Vapour density (Air = 1)</b>                     | Not Available                      | <b>VOC g/L</b>                                 | Not Available  |

**SECTION 10 Stability and reactivity**

|   |  |
|---|--|
| <b>Reactivity</b>                         | See section 7  |
| <b>Chemical stability</b>                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Extremely high temperatures.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7  |
| <b>Conditions to avoid</b>                | See section 7  |
| <b>Incompatible materials</b>             | See section 7  |
| <b>Hazardous decomposition products</b>   | See section 5  |

**SECTION 11 Toxicological information****Information on toxicological effects**

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|                     |   |
|---------------------|---|
| <b>Inhaled</b>      | <p>Inhalation of dusts, generated by the material, during the course of normal handling, may be harmful.</p> <p>The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.</p> <p>The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia.</p> <p>Loose and granular forms produce more dust than preforms (batts) but handling of batts results in fibre dislodgement and dusting. Nose and throat irritation may be transitory.</p> <p>Effects on lungs are significantly enhanced in the presence of respirable particles.</p>  |
| <b>Ingestion</b>    | <p>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.</p>   |
| <b>Skin Contact</b> | <p>Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Man-made mineral fibres may produce mild skin reaction with itching or redness of the skin. This is due to the physical and not from the chemical nature of the substance.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p>   |
| <b>Eye</b>          | <p>Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.</p>   |
| <b>Chronic</b>      | <p>Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates.</p> <p>The chemistry of reaction of isocyanates, as evidenced by MDI, in biological milieu is such that in the event of a true exposure of small MDI doses to the mouth, reactions will commence at once with biological macromolecules in the buccal region and will continue along the digestive tract prior to reaching the stomach.</p> <p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.</p> |

| <b>FiberWeld Permanent Repair Cast</b>                      | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Not Available</td><td>Not Available</td></tr> </table>  | TOXICITY | IRRITATION | Not Available                                    | Not Available                     |   |   |  |                                 |  |   |
|---|---|----------|------------|--|-----------------------------------|---|---|--|---------------------------------|--|---|
| TOXICITY  | IRRITATION  |          |            |  |                                   |   |   |  |                                 |  |   |
| Not Available   | Not Available   |          |            |  |                                   |   |   |  |                                 |  |   |
| <b>MDI/ propylene glycol/ ethylenediamine, propoxylated</b> | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>dermal (rat) LD50: &gt;9400 mg/kg<sup>[2]</sup></td><td>Not Available</td></tr> <tr> <td>Inhalation(Rat) LC50; 0.31 mg/L4h<sup>[2]</sup></td><td></td></tr> </table>  | TOXICITY | IRRITATION | dermal (rat) LD50: >9400 mg/kg <sup>[2]</sup>    | Not Available                     | Inhalation(Rat) LC50; 0.31 mg/L4h <sup>[2]</sup>  |   |  |                                 |  |   |
| TOXICITY  | IRRITATION  |          |            |  |                                   |   |   |  |                                 |  |   |
| dermal (rat) LD50: >9400 mg/kg <sup>[2]</sup>               | Not Available   |          |            |  |                                   |   |   |  |                                 |  |   |
| Inhalation(Rat) LC50; 0.31 mg/L4h <sup>[2]</sup>            |   |          |            |  |                                   |   |   |  |                                 |  |   |
| <b>4,4'-diphenylmethane diisocyanate (MDI)</b>              | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Dermal (rabbit) LD50: &gt;6200 mg/kg<sup>[2]</sup></td><td>Dermal Sensitiser *</td></tr> <tr> <td>Inhalation(Rat) LC50; 0.368 mg/L4h<sup>[1]</sup></td><td>Eye: no adverse effect observed (not irritating)<sup>[1]</sup></td></tr> <tr> <td>Oral(Rat) LD50; &gt;2000 mg/kg<sup>[1]</sup></td><td>Skin (rabbit): 500 mg /24 hours</td></tr> <tr> <td></td><td>Skin: adverse effect observed (irritating)<sup>[1]</sup></td></tr> </table> | TOXICITY | IRRITATION | Dermal (rabbit) LD50: >6200 mg/kg <sup>[2]</sup> | Dermal Sensitiser *               | Inhalation(Rat) LC50; 0.368 mg/L4h <sup>[1]</sup> | Eye: no adverse effect observed (not irritating) <sup>[1]</sup> | Oral(Rat) LD50; >2000 mg/kg <sup>[1]</sup> | Skin (rabbit): 500 mg /24 hours |  | Skin: adverse effect observed (irritating) <sup>[1]</sup> |
| TOXICITY  | IRRITATION  |          |            |  |                                   |   |   |  |                                 |  |   |
| Dermal (rabbit) LD50: >6200 mg/kg <sup>[2]</sup>            | Dermal Sensitiser *   |          |            |  |                                   |   |   |  |                                 |  |   |
| Inhalation(Rat) LC50; 0.368 mg/L4h <sup>[1]</sup>           | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>   |          |            |  |                                   |   |   |  |                                 |  |   |
| Oral(Rat) LD50; >2000 mg/kg <sup>[1]</sup>                  | Skin (rabbit): 500 mg /24 hours   |          |            |  |                                   |   |   |  |                                 |  |   |
|   | Skin: adverse effect observed (irritating) <sup>[1]</sup>   |          |            |  |                                   |   |   |  |                                 |  |   |
| <b>polymeric diphenylmethane diisocyanate</b>               | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Dermal (rabbit) LD50: &gt;9400 mg/kg<sup>[2]</sup></td><td>Eye (rabbit): 100 mg - mild</td></tr> <tr> <td>Inhalation(Rat) LC50; 0.49 mg/L4h<sup>[2]</sup></td><td></td></tr> <tr> <td>Oral(Rat) LD50; 43000 mg/kg<sup>[2]</sup></td><td></td></tr> </table>   | TOXICITY | IRRITATION | Dermal (rabbit) LD50: >9400 mg/kg <sup>[2]</sup> | Eye (rabbit): 100 mg - mild       | Inhalation(Rat) LC50; 0.49 mg/L4h <sup>[2]</sup>  |   | Oral(Rat) LD50; 43000 mg/kg <sup>[2]</sup> |                                 |  |   |
| TOXICITY  | IRRITATION  |          |            |  |                                   |   |   |  |                                 |  |   |
| Dermal (rabbit) LD50: >9400 mg/kg <sup>[2]</sup>            | Eye (rabbit): 100 mg - mild   |          |            |  |                                   |   |   |  |                                 |  |   |
| Inhalation(Rat) LC50; 0.49 mg/L4h <sup>[2]</sup>            |   |          |            |  |                                   |   |   |  |                                 |  |   |
| Oral(Rat) LD50; 43000 mg/kg <sup>[2]</sup>                  |   |          |            |  |                                   |   |   |  |                                 |  |   |
| <b>diphenylmethane diisocyanate (MDI) mixed isomers</b>     | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Dermal (rabbit) LD50: &gt;6200 mg/kg<sup>[2]</sup></td><td>Dermal Sensitiser *</td></tr> <tr> <td>Inhalation(Rat) LC50; 0.369 mg/L4h<sup>[2]</sup></td><td>Skin (rabbit): 500 mg /24 hours</td></tr> <tr> <td>Oral(Rat) LD50; &gt;2000 mg/kg<sup>[2]</sup></td><td></td></tr> </table>  | TOXICITY | IRRITATION | Dermal (rabbit) LD50: >6200 mg/kg <sup>[2]</sup> | Dermal Sensitiser *               | Inhalation(Rat) LC50; 0.369 mg/L4h <sup>[2]</sup> | Skin (rabbit): 500 mg /24 hours                                 | Oral(Rat) LD50; >2000 mg/kg <sup>[2]</sup> |                                 |  |   |
| TOXICITY  | IRRITATION  |          |            |  |                                   |   |   |  |                                 |  |   |
| Dermal (rabbit) LD50: >6200 mg/kg <sup>[2]</sup>            | Dermal Sensitiser *   |          |            |  |                                   |   |   |  |                                 |  |   |
| Inhalation(Rat) LC50; 0.369 mg/L4h <sup>[2]</sup>           | Skin (rabbit): 500 mg /24 hours   |          |            |  |                                   |   |   |  |                                 |  |   |
| Oral(Rat) LD50; >2000 mg/kg <sup>[2]</sup>                  |   |          |            |  |                                   |   |   |  |                                 |  |   |
| <b>N,N-dibenzylidene polyoxypropylene diamine</b>           | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Not Available</td><td>Not Available</td></tr> </table>  | TOXICITY | IRRITATION | Not Available                                    | Not Available                     |   |   |  |                                 |  |   |
| TOXICITY  | IRRITATION  |          |            |  |                                   |   |   |  |                                 |  |   |
| Not Available   | Not Available   |          |            |  |                                   |   |   |  |                                 |  |   |
| <b>oleic acid</b>   | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Oral(Rat) LD50; 25000 mg/kg<sup>[2]</sup></td><td>Skin (human):15 mg/3d-I- moderate</td></tr> <tr> <td></td><td>Skin (rabbit):500 mg mild</td></tr> </table>  | TOXICITY | IRRITATION | Oral(Rat) LD50; 25000 mg/kg <sup>[2]</sup>       | Skin (human):15 mg/3d-I- moderate |   | Skin (rabbit):500 mg mild                                       |  |                                 |  |   |
| TOXICITY  | IRRITATION  |          |            |  |                                   |   |   |  |                                 |  |   |
| Oral(Rat) LD50; 25000 mg/kg <sup>[2]</sup>                  | Skin (human):15 mg/3d-I- moderate   |          |            |  |                                   |   |   |  |                                 |  |   |
|   | Skin (rabbit):500 mg mild   |          |            |  |                                   |   |   |  |                                 |  |   |

## FiberWeld Permanent Repair Cast

|  |  |                   |
|--|--|-------------------|
| C.I. Pigment Black 11                  | <b>TOXICITY</b>  | <b>IRRITATION</b> |
|  | Oral(Rat) LD50; >2000 mg/kg <sup>[1]</sup>   | Not Available     |
| glass fibre - from continuous filament | <b>TOXICITY</b>  | <b>IRRITATION</b> |
|  | Oral(Rat) LD50; >2000 mg/kg <sup>[1]</sup>   | Not Available     |
| <b>Legend:</b>                         | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances |                   |

|  |   |
|--|---|
| MDI/ PROPYLENE GLYCOL/ ETHYLENEDIAMINE, PROPOXYLATED   | Oral (Rat) LD50: 5000 mg/kg * (OECD 423) Skin : Moderate<br>Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products.<br>Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers.  |
| 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)  | Inhalation (human) TCLo: 0.13 ppm/30 mins Eye (rabbit): 0.10 mg moderate  |
| POLYMERIC DIPHENYLMETHANE DIISOCYANATE   | product   |
| OLEIC ACID   | Polyunsaturated fats (PUFAs) protect against heart disease by providing more membrane fluidity than monounsaturated fats (MUFAs), but they are more vulnerable to being oxidized and therefore rancid.<br>Foods containing monounsaturated fats reduce low-density lipoprotein (LDL) cholesterol, while possibly increasing high-density lipoprotein (HDL) cholesterol.<br>Levels of oleic, and other monounsaturated fatty acids in red blood cell membranes were positively associated with breast cancer risk.<br>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.  |
| C.I. PIGMENT BLACK 11  | No data of toxicological significance identified in literature search.  |
| GLASS FIBRE - FROM CONTINUOUS FILAMENT   | There is little evidence for acute toxicity after inhalation of MMMF. Glasswool administered by inhalation produced little pulmonary fibrosis in experimental animals [IARC Monograph 43] The dust has been associated with skin irritation due to the mechanical action of the fibres [CHEMINFO, Sax, ILO ENCYCLOPAEDIA]. Filaments are manufactured to definite fibre diameters; cannot split along their length rather they break across and form small particles not needles [FARIMA]. NOTE: Carcinogenic by RTECS criteria (rat inhalation studies)  |
| FiberWeld Permanent Repair Cast & MDI/ PROPYLENE GLYCOL/ ETHYLENEDIAMINE, PROPOXYLATED & 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) & POLYMERIC DIPHENYLMETHANE DIISOCYANATE & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS | Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms.<br>Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema.<br>Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.<br>The following information refers to contact allergens as a group and may not be specific to this product.<br>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. |
| MDI/ PROPYLENE GLYCOL/ ETHYLENEDIAMINE, PROPOXYLATED & 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) & POLYMERIC DIPHENYLMETHANE DIISOCYANATE & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS & C.I. PIGMENT BLACK 11           | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound.  |
| MDI/ PROPYLENE GLYCOL/ ETHYLENEDIAMINE, PROPOXYLATED & 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) & POLYMERIC DIPHENYLMETHANE DIISOCYANATE & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS                                   | Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.   |
| 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) & POLYMERIC DIPHENYLMETHANE DIISOCYANATE & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS  | The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect.  |



## FiberWeld Permanent Repair Cast

|  |  |
|--|--|
| 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) & POLYMERIC DIPHENYLMETHANE DIISOCYANATE & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS & GLASS FIBRE - FROM CONTINUOUS FILAMENT | The substance is classified by IARC as Group 3:<br><b>NOT</b> classifiable as to its carcinogenicity to humans.<br>Evidence of carcinogenicity may be inadequate or limited in animal testing. |
| DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS & N,N-DIBENZYLIDENE POLYOXYPROPYLENE DIAMINE & C.I. PIGMENT BLACK 11  | No significant acute toxicological data identified in literature search.   |

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity                    | ✓ | Carcinogenicity          | ✗ |
| Skin Irritation/Corrosion         | ✓ | Reproductivity           | ✗ |
| Serious Eye Damage/Irritation     | ✗ | STOT - Single Exposure   | ✗ |
| Respiratory or Skin sensitisation | ✓ | STOT - Repeated Exposure | ✓ |
| Mutagenicity                      | ✗ | Aspiration Hazard        | ✗ |

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
 ✓ – Data available to make classification

## SECTION 12 Ecological information

## Toxicity

|  |               |                    |                               |               |               |
|--|---------------|--------------------|-------------------------------|---------------|---------------|
| FiberWeld Permanent Repair Cast                      | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | Not Available | Not Available      | Not Available                 | Not Available | Not Available |
| MDI/ propylene glycol/ ethylenediamine, propoxylated | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | Not Available | Not Available      | Not Available                 | Not Available | Not Available |
| 4,4'-diphenylmethane diisocyanate (MDI)              | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | EC50          | 72h                | Algae or other aquatic plants | >1640mg/l     | 2             |
|  | LC50          | 96h                | Fish                          | >1000mg/l     | 2             |
|  | NOEC(ECx)     | 504h               | Crustacea                     | >=10mg/l      | 2             |
|  | BCF           | 672h               | Fish                          | 61-150        | 7             |
|  |               |                    |                               |               |               |
| polymeric diphenylmethane diisocyanate               | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | Not Available | Not Available      | Not Available                 | Not Available | Not Available |
| diphenylmethane diisocyanate (MDI) mixed isomers     | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | LC50          | 96h                | Fish                          | >=1000mg/l    | 1             |
|  | NOEC(ECx)     | 504h               | Crustacea                     | >=10mg/l      | 1             |
|  | EC50          | 96h                | Algae or other aquatic plants | 3230mg/l      | 1             |
|  |               |                    |                               |               |               |
| N,N-dibenzylidene polyoxypropylene diamine           | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | Not Available | Not Available      | Not Available                 | Not Available | Not Available |
| oleic acid   | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | Not Available | Not Available      | Not Available                 | Not Available | Not Available |
| C.I. Pigment Black 11                                | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | EC50          | 72h                | Algae or other aquatic plants | 18mg/l        | 2             |
|  | LC50          | 96h                | Fish                          | 0.05mg/l      | 2             |
|  | NOEC(ECx)     | 504h               | Fish                          | 0.52mg/l      | 2             |
|  |               |                    |                               |               |               |

## FiberWeld Permanent Repair Cast

| glass fibre - from continuous filament   | Endpoint  | Test Duration (hr) | Species                       | Value      | Source |
|--|-----------|--------------------|-------------------------------|------------|--------|
|  | NOEC(ECx) | 72h                | Algae or other aquatic plants | >=1000mg/l | 2      |
|  | EC50      | 72h                | Algae or other aquatic plants | >1000mg/l  | 2      |
|  | LC50      | 96h                | Fish                          | >1000mg/l  | 2      |
| <b>Legend:</b> Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data |           |                    |                               |            |        |

for polyisocyanates:

Polyisocyanates are not readily biodegradable. However, due to other elimination mechanisms (hydrolysis, adsorption), long retention times in water are not to be expected.

For Isocyanate Monomers:

Environmental Fate: Isocyanates, (di- and polyfunctional isocyanates), are commonly used to make various polymers, such as polyurethanes. Polyurethanes find significant application in the manufacture of rigid and flexible foams.

**DO NOT** discharge into sewer or waterways.

## Persistence and degradability

| Ingredient                              | Persistence: Water/Soil  | Persistence: Air            |
|---|--------------------------|-----------------------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | LOW (Half-life = 1 days) | LOW (Half-life = 0.24 days) |
| oleic acid                              | LOW                      | LOW                         |

## Bioaccumulative potential

| Ingredient                                       | Bioaccumulation       |
|--|-----------------------|
| 4,4'-diphenylmethane diisocyanate (MDI)          | LOW (BCF = 15)        |
| diphenylmethane diisocyanate (MDI) mixed isomers | LOW (BCF = 15)        |
| oleic acid                                       | LOW (LogKOW = 7.7294) |

## Mobility in soil

| Ingredient                              | Mobility           |
|---|--------------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | LOW (KOC = 376200) |
| oleic acid                              | LOW (KOC = 11670)  |

## SECTION 13 Disposal considerations

## Waste treatment methods

| Product / Packaging disposal | <ul style="list-style-type: none"> <li>Containers may still present a chemical hazard/ danger when empty.</li> <li>Return to supplier for reuse/ recycling if possible.</li> <li><b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains.</li> <li>It may be necessary to collect all wash water for treatment before disposal.</li> </ul> |
|------------------------------|--|
|------------------------------|--|

## SECTION 14 Transport information

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name   | Group         |
|--|---------------|
| MDI/ propylene glycol/ ethylenediamine, propoxylated | Not Available |
| 4,4'-diphenylmethane diisocyanate (MDI)              | Not Available |
| polymeric diphenylmethane diisocyanate               | Not Available |
| diphenylmethane diisocyanate (MDI) mixed isomers     | Not Available |
| N,N-dibenzylidene polyoxypropylene diamine           | Not Available |
| oleic acid   | Not Available |
| C.I. Pigment Black 11                                | Not Available |

Continued...

## FiberWeld Permanent Repair Cast

| Product name                           | Group         |
|--|---------------|
| glass fibre - from continuous filament | Not Available |

## Transport in bulk in accordance with the ICG Code

| Product name   | Ship Type     |
|--|---------------|
| MDI/ propylene glycol/ ethylenediamine, propoxylated | Not Available |
| 4,4'-diphenylmethane diisocyanate (MDI)              | Not Available |
| polymeric diphenylmethane diisocyanate               | Not Available |
| diphenylmethane diisocyanate (MDI) mixed isomers     | Not Available |
| N,N-dibenzylidene polyoxypropylene diamine           | Not Available |
| oleic acid   | Not Available |
| C.I. Pigment Black 11                                | Not Available |
| glass fibre - from continuous filament               | Not Available |

## SECTION 15 Regulatory information

## Safety, health and environmental regulations / legislation specific for the substance or mixture

## MDI/ propylene glycol/ ethylenediamine, propoxylated is found on the following regulatory lists

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

## 4,4'-diphenylmethane diisocyanate (MDI) is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants

US ACGIH Threshold Limit Values (TLV)

US Clean Air Act - Hazardous Air Pollutants

US DOE Temporary Emergency Exposure Limits (TEELs)

US EPA Integrated Risk Information System (IRIS)

US EPCRA Section 313 Chemical List

US NIOSH Recommended Exposure Limits (RELs)

US OSHA Permissible Exposure Limits (PELs) Table Z-1

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

US TSCA New Chemical Exposure Limits (NCEL)

## polymeric diphenylmethane diisocyanate is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)

US DOE Temporary Emergency Exposure Limits (TEELs)

US EPCRA Section 313 Chemical List

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

## diphenylmethane diisocyanate (MDI) mixed isomers is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

US EPCRA Section 313 Chemical List

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

## N,N-dibenzylidene polyoxypropylene diamine is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

## oleic acid is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

## C.I. Pigment Black 11 is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

## glass fibre - from continuous filament is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

## Federal Regulations

## Superfund Amendments and Reauthorization Act of 1986 (SARA)

## Section 311/312 hazard categories

|   |    |
|---|----|
| Flammable (Gases, Aerosols, Liquids, or Solids) | No |
| Gas under pressure                              | No |
| Explosive                                       | No |
| Self-heating                                    | No |
| Pyrophoric (Liquid or Solid)                    | No |
| Pyrophoric Gas                                  | No |

Continued...

## FiberWeld Permanent Repair Cast

|  |     |
|--|-----|
| Corrosive to metal   | No  |
| Oxidizer (Liquid, Solid or Gas)                              | No  |
| Organic Peroxide   | No  |
| Self-reactive  | No  |
| In contact with water emits flammable gas                    | No  |
| Combustible Dust   | No  |
| Carcinogenicity  | No  |
| Acute toxicity (any route of exposure)                       | Yes |
| Reproductive toxicity  | No  |
| Skin Corrosion or Irritation                                 | Yes |
| Respiratory or Skin Sensitization                            | Yes |
| Serious eye damage or eye irritation                         | No  |
| Specific target organ toxicity (single or repeated exposure) | Yes |
| Aspiration Hazard  | No  |
| Germ cell mutagenicity                                       | No  |
| Simple Asphyxiant  | No  |
| Hazards Not Otherwise Classified                             | No  |

## US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

| Name                                    | Reportable Quantity in Pounds (lb) | Reportable Quantity in kg |
|---|------------------------------------|---------------------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | 5000                               | 2270                      |

## State Regulations

## US. California Proposition 65

None Reported

## National Inventory Status

| National Inventory                               | Status  |
|--|---|
| Australia - AIIIC / Australia Non-Industrial Use | No (N,N-dibenzylidene polyoxypropylene diamine)   |
| Canada - DSL                                     | No (N,N-dibenzylidene polyoxypropylene diamine)   |
| Canada - NDSL                                    | No (MDI/ propylene glycol/ ethylenediamine, propoxylated; 4,4'-diphenylmethane diisocyanate (MDI); polymeric diphenylmethane diisocyanate; diphenylmethane diisocyanate (MDI) mixed isomers; oleic acid; C.I. Pigment Black 11; glass fibre - from continuous filament) |
| China - IECSC                                    | No (N,N-dibenzylidene polyoxypropylene diamine)   |
| Europe - EINEC / ELINCS / NLP                    | No (MDI/ propylene glycol/ ethylenediamine, propoxylated; polymeric diphenylmethane diisocyanate; N,N-dibenzylidene polyoxypropylene diamine)   |
| Japan - ENCS                                     | No (MDI/ propylene glycol/ ethylenediamine, propoxylated; N,N-dibenzylidene polyoxypropylene diamine; glass fibre - from continuous filament)   |
| Korea - KECI                                     | No (N,N-dibenzylidene polyoxypropylene diamine)   |
| New Zealand - NZIoC                              | Yes   |
| Philippines - PICCS                              | No (MDI/ propylene glycol/ ethylenediamine, propoxylated; N,N-dibenzylidene polyoxypropylene diamine)   |
| USA - TSCA                                       | Yes   |
| Taiwan - TCSI                                    | Yes   |
| Mexico - INSQ                                    | No (MDI/ propylene glycol/ ethylenediamine, propoxylated; N,N-dibenzylidene polyoxypropylene diamine)   |
| Vietnam - NCI                                    | No (N,N-dibenzylidene polyoxypropylene diamine)   |
| Russia - FBEPH                                   | No (MDI/ propylene glycol/ ethylenediamine, propoxylated; N,N-dibenzylidene polyoxypropylene diamine)   |
| <b>Legend:</b>                                   | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)  |

## SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 06/24/2021 |
| Initial Date  | 07/18/2020 |

## Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.