SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier
   Product name: GLASSBOND SAUEREISEN ELECTRIC RESISTOR CEMENT N°78/3
   REACH notes: Mixture- Substances contained in this product that are not classified as hazardous have been/will be registered for REACH at the appropriate time.

1.2 Relevant identified uses of the mixture and uses advised against.
   Identified use: High temperature adhesive and sealant
   Uses advised against: No other uses

1.3 Details of the supplier of the safety data sheet
   Company identification: Glassbond (NW) Ltd
   West Side Industrial Estate
   Jackson Street
   St. Helens
   Merseyside WA9 3AT
   United Kingdom
   Telephone: +44(0)1744 730334
   Fax: +44(0)1744 451661
   Email: technical@glassbond.co.uk

1.4 Emergency telephone number: +44(0)1744 730334
   (GMT, English spoken, Mon-Friday; 08.30-16.30)

SECTION 2: HAZARDS IDENTIFICATION*

2.1 Classification of the mixture: calculation method
2.1.1 Regulation (EC) No. 1272/2008(CLP)
   Physical/Chemical: NOT CLASSIFIED
   Human health: STOT RE 2 (inhalation), Eye damage 1, Skin Irritant 2
   Environmental: NOT CLASSIFIED

2.1.2 Directive 1999/45/EC(DPD) Not available

2.2 Label elements
   According to Regulation (EC) No. 1272/2008(CLP)
   STOT RE 2
   GHS08  GS05

Date Revised : 31.10.2018
Revision : 11
Product : ELECTRIC RESISTOR CEMENT N°78/3

**Signal Word(s)**
DANGER

**Hazard Statement(s)**
- H373 Causes damage to lungs through prolonged or repeated exposure via inhalation
- H315 Causes skin irritation.
- H318 Causes serious eye damage

**Precautionary Statement(s)**
- P260 Do not breathe dust
- P280 Wear protective gloves /protective clothing/eye protection/face protection
  - P305 + IF IN EYES rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 Immediately call a POISON CENTRE or doctor

**2.3 Other Hazards**
- PBT: This mixture contains no substances considered as PBT
- vPvB: This mixture contains no substances considered as vPvB

**2.4 Additional Information**
For full text of H/P phrases see section 16 if not written out in full above.

**Section 3: Composition/information on ingredients**

**3.1 Substances.** (This product is a mixture according to EU legislation.)

**3.2 Mixture of inorganic powders**

<table>
<thead>
<tr>
<th>Hazardous Ingredient</th>
<th>% w/w</th>
<th>CAS N°</th>
<th>EC N°</th>
<th>REACH N°</th>
<th>CPL EC 1272/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica powder</td>
<td>40-50</td>
<td>14808-60-7</td>
<td>238-878-4</td>
<td>Exempted</td>
<td>H373: STOT RE 2</td>
</tr>
<tr>
<td>Sodium silicate</td>
<td>10-15</td>
<td>1344-09-8</td>
<td>215-687-4</td>
<td>01-2119448725-31</td>
<td>H335 : STOT SE 3 (inhalation)</td>
</tr>
</tbody>
</table>

**3.3 Additional Information**
For full text of H/P phrases see section 16 if not written out in full above.
**SECTION 4: FIRST AID MEASURES**

**4.1 Description of first aid measures**

<table>
<thead>
<tr>
<th>General advice</th>
<th>Take off contaminated clothing and wash before re-use (P362), take care not to contaminate unaffected areas.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>IF INHALED remove victim to fresh air and keep at rest in a position comfortable for breathing. (P304+P340)</td>
</tr>
<tr>
<td>Eyes</td>
<td>IF IN EYES rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305 + P351 + P338) If eye irritation persists: Get medical attention (P337+P313)</td>
</tr>
<tr>
<td>Skin</td>
<td>IF ON SKIN wash exposed areas thoroughly after handling (P264) If skin irritation or rash occurs get medical attention (P332+P313)</td>
</tr>
<tr>
<td>Ingestion</td>
<td>IF SWALLOWED: Rinse mouth. Do not induce vomiting (P301+P330+P331). Obtain medical attention immediately, show this safety data sheet.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Eye contact- May cause serious eye damage. (highly alkaline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risks</td>
<td>No information available</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Treat according to symptoms (decontamination, vital functions), no known specific antidote.</th>
</tr>
</thead>
</table>

**SECTION 5: FIRE FIGHTING MEASURES**

**5.1 Extinguishing media:**

Suitable: CO2 or dry chemical spray, water spray may help to reduce the temperature and extinguish flames for surrounding materials.

Unsuitable: High pressure water jet.

**5.2 Special hazards arising from the mixture**

The powder will not burn but the packaging is combustible.

**5.3 Advice for fire fighters**

Use full protective clothing and self-contained breathing apparatus.

**Further information:** The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing media must be disposed of in accordance with official regulation.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**6.1 Personal Precautions, protective equipment and emergency procedures**

Use personal protective clothing.

**6.2 Environmental Precautions**

Prevent contamination of soil, drains and surface waters. Do not discharge contaminated water/ fire-fighting water into drains/ surface water/ groundwater.

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

Collect spillage by sweeping or industrial vacuum cleaner. keep in suitable closed container for disposal

**6.4 Reference to other sections**

For personal protection see section 8 and disposal section 13
SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Advice on safe handling
Avoid the formation and deposition of dust. Use only outdoors or in a well ventilated area (P271). For PPE see section 8. Wash contaminated clothing before reuse (P363).

Advice on protection against fire and explosion
Normal measures for preventive fire protection. Take precautionary measures against static discharge if using plastic packaging.

7.2 Conditions for safe storage, including any incompatibilities
Keep containers tightly closed. Store locked up (P405), under cover, in a well ventilated, cool, dry place and away from direct sunlight or heat.
Protect from temperatures below: Not applicable
Protect from temperatures above: 40 °C
Suitable storage materials: Original containers.
Higher temperatures and humidity will reduce the shelf life of the product and may cause the powder to form lumps. The powder will also be difficult to mix into a paste. Under normal conditions (21ºC) a shelf life of 12 months or more is possible.

7.3 Specific end use(s)
As per section 1.2

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
8.1.1 Occupational Exposure Limits: OEL (Occupational Exposure Standard OES)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Emission Mode</th>
<th>Unit</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica crystalline</td>
<td>TWA</td>
<td>mg/m³</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>ppm</td>
<td>&lt; 0.3</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Sodium silicate</td>
<td>TWA</td>
<td>mg/m³</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

8.1.2 Biological limit value
Not available

8.1.3 PNECs and DNELs
Not available

8.2 Exposure Controls
8.2.1 Appropriate engineering controls: Effective exhaust ventilation system
8.2.2 Personal Protective Equipment:

Eye/face Protection
Tightly fitting safety goggles (e.g. EN166)

Skin Protection/Hand
Gloves: Chemical resistant gloves (e.g. EN374) Butyl rubber: 0.7 mm coating thickness. Nitrile rubber: 0.4 mm coating thickness. Check with PPE manufacturer. Replace immediately if signs of degradation are observed. Wear closed work clothing.

Other

Respiratory Protection
In the case of insufficient ventilation or severe dusts
Cartridge: e.g. EN143 Type P-S (check with PPE manufacturer)

Hygiene measures
General industrial hygiene practice

8.2.3 Environmental exposure controls
Local exhaust ventilation and take precautionary measures against static discharge.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Fine powder</td>
</tr>
<tr>
<td>Odour</td>
<td>None</td>
</tr>
<tr>
<td>pH Value</td>
<td>11-12</td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Initial Boiling Point/Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flashpoint °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid/gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper Explosive Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour Density (air=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative Density</td>
<td>2.7 g/ml</td>
</tr>
<tr>
<td>Solubility in water @ 20°C</td>
<td>&lt;15 g/100g</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature °C</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not available</td>
</tr>
<tr>
<td>Oxidising Properties</td>
<td>Not oxidising</td>
</tr>
</tbody>
</table>

9.2 Other information

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
Stable under normal conditions.

10.2 Chemical Stability
Stable under recommended storage and handling conditions.

10.3 Possibility of Hazardous reactions
No dangerous reaction known under conditions of normal use.

10.4 Conditions to Avoid
No decomposition if stored and applied as directed.

10.5 Incompatible materials
Incompatible with strong acids, alkaline materials, iron containing materials. Aqueous solutions will react with aluminium, zinc, tin and their alloys evolving hydrogen gas which can form an explosive mixture with air. Can react violently if in contact with acids. Can react with sugar residues to form carbon monoxide.

10.6 Hazardous Decomposition Products.
No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects of the mixture

Acute toxicity
Contains components that are hazardous by the following routes: skin, eye, inhalation.

<table>
<thead>
<tr>
<th>Route</th>
<th>Value</th>
<th>Compound</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD₅₀ Oral toxicity in rats</td>
<td>3400 mg/kg</td>
<td>Sodium silicate</td>
</tr>
<tr>
<td>LD₅₀ Dermal toxicity in rabbits</td>
<td>&gt;5000 mg/kg</td>
<td>Sodium silicate</td>
</tr>
<tr>
<td>LC₅₀ Inhalation toxicity in rats</td>
<td>&gt;2.06 g/m³</td>
<td>Sodium silicate</td>
</tr>
<tr>
<td>LD₅₀ Dermal toxicity in rabbits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC₅₀ Dermal toxicity in rats</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Irritating

Serious eye damage/irritation
Damaging

Respiratory or skin sensitisation
Not classified

Germ cell mutagenicity
Not classified

Carcinogenicity
Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis cause by deposition in the lungs of fine respirable particles of crystalline silica.

**Reproductive toxicity**
Not classified

**Specific Target Organ Toxicity (Repeated Exposure)**
STOT RE2

**Specific Target Organ Toxicity (Single Exposure)**
Not classified

**Aspiration hazard**
Not classified

### 11.2 Other information
In 1997, IARC (International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans.

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### SECTION 12: ECOLOGICAL INFORMATION

#### 12.1 Toxicity

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Species</th>
<th>Endpoint</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL(_{50}) Fish</td>
<td>(96 hr)</td>
<td>sodium silicate</td>
<td>Brachydanio rerio</td>
</tr>
<tr>
<td>EC(_{50}) Invertibrates</td>
<td>(48 hr)</td>
<td>1108 mg/l</td>
<td></td>
</tr>
<tr>
<td>EL(_{50}) Algae</td>
<td>(72hr)</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>LL(_{50}) Fish</td>
<td>(96 hr)</td>
<td>mg/l</td>
<td></td>
</tr>
<tr>
<td>EC(_{50}) Invertibrates</td>
<td>(48 hr)</td>
<td>Lepomis macrochirus</td>
<td></td>
</tr>
<tr>
<td>EL(_{50}) Algae</td>
<td>(72hr)</td>
<td>Selenastrum capricornutum</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Endpoint</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC(_{50}) Bacteria</td>
<td>(3.0 hr)</td>
<td>Activated sludge, domestic</td>
</tr>
</tbody>
</table>

#### 12.2 Persistance and degradability
Not biodegradeable

#### 12.3 Bioaccumulative potential
Not available

#### 12.4 Mobility in soil
Sinks in water. A proportion (<15%) is water soluble. If the product enters soil, it will be mobile and may contaminate groundwater.

#### 12.5 Results of PBT and vPvB assessment

- **PBT:** This mixture contains no substances considered as PBT
- **vPvB:** This mixture contains no substances considered as vPvB

#### 12.6 Other adverse effects
The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Do not release untreated into natural waters. This product has not been tested. The statement has been derived from products of a similar structure and composition.
SECTION 13: DISPOSAL CONSIDERATION

13.1 Waste treatment methods
Dispose of contents/container according to the end user disposal procedure (P501). Dispose by landfill via a licensed waste disposal contractor in accordance with local and national regulations.

Contaminated packaging should be emptied as far as possible, they can then be recycled after being thoroughly cleaned by a licensed contractor. Labels must not be removed from containers until they have been cleaned. Packaging materials that are not contaminated should be treated as household waste or as recycling material.

13.2 Additional information
The UK Environmental Protection (Duty of Care) regulations (EP) and amendments should be noted (United Kingdom)

SECTION 14: TRANSPORT INFORMATION

14.1 UN number
ADR
RID
IMDG
IATA
ADN

14.2 Proper shipping name
ADR
RID
IMDG
IATA
ADN

14.3 Transport Hazard Class
ADR
RID
IMDG
IATA
ADN

14.4 Packing Group
ADR
RID
IMDG
IATA
ADN

14.5 Environmental hazards
ADR
RID
IMDG
IATA
ADN

14.6 Special Precautions for user
Not classified as dangerous in the meaning of transport regulations

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code
Not applicable
SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the mixture
EU Legislation

Employment restrictions: Observe employment restrictions for young people, for child bearing mothers/ nursing and for women of child-bearing age.

15.2 Chemical Safety Assessment
Assessed to be not PBT/vPvB. No risk management measures as defined by REACH have been identified.

SECTION 16: Other Information *

SECTIONS REVISED 7, 10
Supercedes date 05.09.2018
Grad name amendment.

Legend
PBT Persistent, Bioaccumulative and Toxic
vPvB very Persistent and very Bioaccumulative

Data sources Supplier information

Other hazard and risk phrases listed in this MSDS
H335 May cause respiratory irritation

Training advice General industrial hygiene practice. Do not eat, drink or smoke when using this product (P270)

Manual handling

Further information
This information relates only to the specific material designated and is to the best of the company’s knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to it’s accuracy, reliability or completeness and without acceptance of liability for loss or damage attributable to reliance thereon as conditions of use lie outside our control. Users should always carry tests to establish the suitability of any products for their intended applications. No statements shall be incorporated in any contract unless expressively agreed in writing or construed as recommending the use of any product in conflict of any patent. All goods are supplied subject to Glassbond Ltd’s General Conditions of Sale.