SAFETY DATA SHEET
GLAVA GLASSULL (GLASSWOOL)

1. COMPANY- AND PRODUCT IDENTIFICATION

Revidert: 28.11.2013

Tradename: GLAVA GLASSULL (GLASSWOOL)
Synonyms: Mineral wool
Use: Primary as thermal- and/or acoustic isolation.
Description: Light yellow/yellow color, boards, rolls, pipe sections and beads.

Manufacturer: GLAVA A/S
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Norway

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E-mail: post@glava.no
Internet: www.glava.no

2. HAZARD IDENTIFICATION

Glava glass wool is not classified hazardous according to EU-directive 67/548/EEC, 1999/45/EC and CLP (EC no. 1272/2008).

3. CHEMICAL COMPOSITION

Constituent parts: weight %
Silicate glass 88 - 97
Cured urea-modified
Phenol/formaldehyde resin 2 - 11
Emulsified oil (for dust prevention) 0 - 1

(1) MMVF: Man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content greater than 18% by weight and fulfilling one of the nota Q conditions.
4. FIRST AID

| Inhalation: | Remove from the area of exposure to fresh air. Rinse Throat and nose to clear dust. |
| Skin contact: | If mechanical irritation occurs, remove contaminated clothing and wash skin gently with cold water and soap. Avoid excessive rubbing. |
| Eye contact: | Rinse with running water. |

If any adverse reaction or discomfort continuous from any of the above exposure, seek medical advise.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: water, foam, CO2 and dry powder.

Products do not pose a fire hazard in use; however, some packaging materials or facings may be combustible.

The basis products satisfy the requirement for none combustible products according to euro-class A1 or A2.

6. ACCIDENTAL SPILLAGE

Not relevant.

7. HANDLING AND STORAGE

| Handling: | Use proper cutting tools and clean up the remains to prevent unnecessary formation of dust. Ensure adequate ventilation of workplace. |
| Storage: | Store away from excessive humidity. Store in accordance to guidance sheet from Glava and site specific risk assessment. |

8. EXPOSURE CONTROL – PERSONAL PROTECTION

| Exposure limit value: | None at European level. Country limit in Norway: max 1 fiber/cm³ air. |
| Respiratory: | When working in unventilated areas or during operations witch can generate emission of any dust, it is recommendable to wear disposable face mask with P2 filter. On initial heating above 175°C, and if personnel must be close, use fresh air supply mask if ventilation is insufficient. |
| Eye protection: | Use goggles when working overhead or if the application method creates much dust. |
| Vernekler: | It is recommended to wear gloves, long-sleeved baggy clothes and cap with a visor to avoid skin irritation. |
The following sentences and pictograms are printed on packaging:

"The mechanical effect of fibres in contact with skin may cause temporary itching"

- Ventilate working area if possible
- Waste should be disposed of according to local regulations
- Cover exposed skin. When working in unventilated area wear disposable face mask
- Clean area using vacuum equipment
- Wear goggles when working overhead
- Rinse in cold water before washing
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical state/colour:</th>
<th>Solid/ yellow colour.</th>
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</thead>
<tbody>
<tr>
<td>Odour:</td>
<td>Light odour may occur</td>
</tr>
<tr>
<td>pH:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Boiling point:</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Melting point:</td>
<td>Sintering temperature &gt; 600 °C.</td>
</tr>
<tr>
<td>Flammability:</td>
<td>Not relevant. Glava glass wool satisfy the requirement for none combustible products according to Euro-class A1 or A2. Some packaging material and facings are combustible.</td>
</tr>
<tr>
<td>Explosive properties:</td>
<td>Not relevant.</td>
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<tr>
<td>Density:</td>
<td>10 - 140 kg/m³.</td>
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<tr>
<td>Solubility:</td>
<td>Not soluble in water or organic solvents.</td>
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</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Stability:</th>
<th>Stable in normal condition of use. For high T uses: Binder will start to decompose around 200°C.</th>
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<tbody>
<tr>
<td>Hazardous decomposition products:</td>
<td>For high T uses: Decomposition of binder around 200°C produces carbon dioxide and some trace gases. The duration and amount of release is dependent upon the thickness of the insulation, binder content and temperature applied. During first heating, good ventilation or appropriate personal equipment is required.</td>
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</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

Glava glass wool is not hazardous in normal condition of use due to respiration, ingestion or skin contact.

During first heating above 175 °C, decomposition of the binder produces some possible hazardous trace gases as formaldehyde- and ammonia-gases. Appropriate personal equipment is required.

Coarse fibers may cause mechanical irritation on the skin.

Glass wool from GLAVA® is produced according to the guidelines given in EU-directive 97/69/EC (nota Q), where the glass wool is exonerated from carcinogenic risks.

According to WHO’s International Agency for Research on Cancer, IARC, glass wool is classified in group 3, unclassifiable to its carcinogenicity to humans.
GLAVA® glass wool is not expected to cause harm to animals or plants during normal condition of use.

13. WASTE DISPOSAL

Not classified as hazardous waste according to Norwegian Pollution Control Authority.
EAL-code: 17.06.04

14. TRANSPORT INFORMATION

No specific regulation.

15. REGULATORY INFORMATION

The European directive 97/69/EC replaced by the regulation (EC) n° 1272/2008 concerning the classification, labeling and packaging of substance and the mixtures does not classify glass fibers as hazardous, if they are in compliance with the note Q of this regulation.

Hygiene and work safety regulation:
Mineral wool fibers: 1 fiber/cm³ air (in working atmosphere)
Total dust: 10 mg/m³
Respirable dust: 5 mg/m³

16. OTHER INFORMATION

More detailed information can be found in the brochure from Norima called: "Mineralull – Gode råd og informasjon om arbeid med mineralull" (Norwegian brochure) This is available from dealers, manufacturers and/or can be loaded from our web: www.glava.no