SAFETY DATA SHEET
Glass Mineral Wool Insulation

1. Identification

Product identifier

Product name  Glass Mineral Wool Insulation
Product number  KI_DP_107 (GHS)
Synonyms; trade names  Acoustical/IB Board, Acoustical Smooth Board, KN Series Insulation*, KwikFlex™, Guardian (Unfaced and Faced) Building Insulation, Everbit (Unfaced and Faced) Building Insulation, Eclipse® Air Duct Board, Filter Tubes

Revision date  12/06/2019

Recommended use of the chemical and restrictions on use

Application  Thermal and/or acoustic insulation for use in technical applications, industrial applications and in building construction.
Uses advised against  None known.

Details of the supplier of the safety data sheet

Supplier  Knauf Insulation, Inc.
One Knauf Drive
Shelbyville
IN 46176-1496
Tel: 800 825 4434
www.knaufinsulation.us
sds@knaufinsulation.com

Region: United States, Central & South America

Emergency telephone number

Emergency telephone  24hrs: Chemtrec Tel: 800 424 9300
Glass Mineral Wool Insulation

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status: This product is regulated as a nuisance dust under OSHA criteria.

Physical hazards: Not Classified
Health hazards: Not Classified
Environmental hazards: Not Classified

Label elements

Hazard statements: NC Not Classified
Contains: None.
Hazard pictogram: None.
Signal word: None.
Precautionary statements: None.
Supplemental label information: None.

The following sentences and pictograms are printed on packaging:
The mechanical effect of fibers in contact with skin may cause temporary itching.

http://www.knaufinsulation.com/comfort-and-handling

Other hazards

Physical Hazards: None.
Health Hazards: Mechanical irritation of the skin, eyes and upper respiratory system.
Environmental Hazards: None.
Main symptoms: Contact with skin, eyes and upper respiratory system may cause mechanical irritation. Biosoluble glass mineral wool is classified as a nuisance dust by OSHA.

*Heat-Up Precautions: When heated to temperatures above 400°F for the first time, release of binder components and binder decomposition products can occur which, in high concentrations, may irritate eyes and the respiratory system. See section 8 & 10
# Glass Mineral Wool Insulation

## 3. Composition/information on ingredients

### Mixtures

<table>
<thead>
<tr>
<th>Biosoluble glass mineral wool</th>
<th>83 - 97%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: —</td>
<td></td>
</tr>
<tr>
<td>Ingredient notes: (1)(2)</td>
<td></td>
</tr>
</tbody>
</table>

| Classification              | Not Classified |

<table>
<thead>
<tr>
<th>Thermo set, inert polymer based on cured phenol formaldehyde resin</th>
<th>3 - 17%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: —</td>
<td></td>
</tr>
</tbody>
</table>

| Classification | Not Classified |

<table>
<thead>
<tr>
<th>Formaldehyde</th>
<th>&lt;0.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 50-00-0</td>
<td></td>
</tr>
</tbody>
</table>

### Classification

- Acute Tox. 3 - H301
- Acute Tox. 3 - H311
- Acute Tox. 2 - H330
- Skin Corr. 1B - H314
- Eye Dam. 1 - H318
- Skin Sens. 1 - H317
- Muta. 2 - H341
- Carc. 1B - H350
- STOT SE 3 - H335

The full text for all hazard statements is displayed in Section 16.

### Ingredient notes

1. Man made vitreous (silicate) fibers with random orientation with alkaline oxide and alkali earth oxide (Na₂O+K₂O+CaO+MgO+BaO) content greater than 18% by weight meeting the requirements of Note Q of regulation n° 1272/2008 and therefore not classified carcinogenicity.

2. All Knauf Insulation products covered by this SDS are independently certified by EUCEB to be manufactured using biosoluble glass fibers formulations and thus the glass wool fibers are exempt from labelling under NTP or California Prop 65 requirements.

Specific chemical identity and/or exact percent concentration is withheld as trade secret.
Glass Mineral Wool Insulation

4. First-aid measures

Description of first aid measures

General information
Show this Safety Data Sheet to the medical professional in attendance. If symptoms occur, follow first aid measures as appropriate.

Notes to Physician:
No specific recommendations.

Inhalation
Remove from exposure. Rinse the throat and clear dust from airways.

Ingestion
Drink plenty of water if accidentally ingested.

Skin Contact
If mechanical irritation occurs, remove contaminated clothing and wash skin gently with cold water and soap.

Eye contact
Rinse abundantly with water for at least 15 minutes.

Most important symptoms and effects, both acute and delayed

General information
Contact with skin, eyes and upper respiratory system may cause mechanical irritation. Biosoluble glass mineral wool is classified as a nuisance dust by OSHA.

Indication of immediate medical attention and special treatment needed

General information
If any adverse reaction or discomfort continues from any of the above exposures, seek professional medical advice.

Specific treatments
No specific recommendations.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Water, foam, carbon dioxide (CO2), and dry powder.

Special hazards arising from the substance or mixture

General information
Products do not pose a fire hazard in use; however, some packaging materials or facings may be combustible. Products of combustion from product and packaging - carbon dioxide, carbon monoxide and some trace gases such as ammonia, nitrogen oxides and volatile organic substances.

Advice for firefighters

General information
In large fires in poorly ventilated areas involving packaging materials respiratory protection / breathing apparatus may be required.
Glass Mineral Wool Insulation

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Minimize direct contact with skin in order to prevent mechanical itching. In dusty environments, use suitable respiratory protection such as 3M 8210, N95 or equivalent. Use glasses or goggles when working with mineral wool insulation above shoulder height or in dusty environments. Where possible, use natural ventilation during installation in order to minimize dust levels.

After contact with the product, rinse skin in cold water to reduce potential effects of mechanical itching. Dispose of surplus product in accordance with local regulations.

Use personal protection recommended in Section 8 of the SDS.

Environmental precautions

Environmental precautions Not relevant.

Methods and material for containment and cleaning up

Methods for cleaning up In dusty environments, use vacuum equipment where possible to minimize dust levels.

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Assure proper respiratory protection if dust potential exceeds PEL/TLV.

Conditions for safe storage, including any incompatibilities

Storage precautions To ensure optimum product performance; when packaging is removed or opened; products should be stored inside or covered to protect them from ingress of rain water or snow. Storage arrangements should ensure stability of stacked products and use on a first in first out basis (FIFO) is recommended.

Specific end uses(s) Thermal and/or acoustic insulation for use in technical applications, industrial applications and in building construction.
Glass Mineral Wool Insulation

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

Biosoluble glass mineral wool

Long-term exposure limit (8-hour TWA): ACGIH, (Notes: (A3)) 1 f/cc Glass wool fibers
Long-term exposure limit (8-hour TWA): NIOSH 5 mg/m³ Mineral wool fiber, total particulate
Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³ Particulates not otherwise regulated (PNOR), respirable fraction
Long-term exposure limit (8-hour TWA): OSHA 15 mg/m³ Particulates not otherwise regulated (PNOR), total dust

Formaldehyde

Ceiling exposure limit: ACGIH 0.3 ppm 0.37 mg/m³
A2, DSens, RSens
Long-term exposure limit (8-hour TWA): OSHA 0.75 ppm
Short-term exposure limit (15-minute): OSHA 2 ppm

ACGIH = American Conference of Governmental Industrial Hygienists.
A2 = Suspected Human Carcinogen.
OSHA = Occupational Safety and Health Administration.
DSens = Dermal sensitizer.
RSens = Respiratory sensitizer.
NIOSH = The National Institute for Occupational Safety and Health.

Ingredient comments (A3) - Fibers longer than 5 μm; diameter less than 3 μm; aspect ratio greater than 5:1 as determined by the membrane filter method at 400-450X magnification (4-mm objective) phase contrast illumination.
Biosoluble glass mineral wool - See section 3.
Ca = Potential occupational carcinogen
CT = Ceiling time.
DSens = Dermal sensitizer.
RSens = Respiratory sensitizer.
A2 = Suspected Human Carcinogen.

Exposure controls

Immediate danger to life and health 20 ppm 20 ppm

Formaldehyde (CAS: 50-00-0)

Exposure controls

Appropriate engineering controls
Maintain sufficient mechanical or natural ventilation to assure fiber concentrations remain below PEL/TLV. Use local exhaust if necessary. Power equipment should be equipped with properly designed dust collection devices.

Eye/face protection
Use glasses or goggles when working with mineral wool insulation above shoulder height or in dusty environments.

Other skin and body protection
Minimize direct contact with skin in order to prevent mechanical itching.

Hygiene measures
After contact with the product, rinse skin in cold water to reduce potential effects of mechanical itching.

Respiratory protection
In dusty environments, use suitable respiratory protection.

Thermal hazards
Not relevant.
Glass Mineral Wool Insulation

* Heat-Up Precautions: When heated to temperatures above 400°F for the first time, release of binder components and binder decomposition products can occur which, in high concentrations, may irritate eyes and the respiratory system. The duration of release is dependant upon the thickness of the insulation, binder content and the temperature applied. Adequate ventilation should be provided. In confined spaces or where ventilation is not possible, occupants should wear appropriate self-contained breathing apparatus.

9. Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Relative density</td>
<td>7 - 96 kg/m³</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Generally chemically inert and slightly soluble in water.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not relevant.</td>
</tr>
<tr>
<td>Nominal diameter of fibers.</td>
<td>3 - 8μm</td>
</tr>
<tr>
<td>Length weight geometric mean diameter less 2 standard errors</td>
<td>&lt; 6 μm</td>
</tr>
<tr>
<td>Orientation of fibers</td>
<td>Random</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity None.
Glass Mineral Wool Insulation

Stability
Binder will decompose above 400°F

Possibility of hazardous reactions
None.

Conditions to avoid
Heating above 400°F

Materials to avoid
Hydrofluoric acid will react with and dissolve glass.

Hazardous decomposition products
None in normal conditions of use. When heated to temperatures above 400°F for the first time, release of binder components and binder decomposition products can occur which, in high concentrations, may irritate eyes and the respiratory system.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral
Notes (oral LD₅₀)
No data were identified for the product as a whole. Data are for constituents:
Biosoluble glass mineral wool - Not applicable.
Thermo set, inert polymer based on cured phenol formaldehyde resins. - Not applicable.

Acute toxicity - dermal
Notes (dermal LD₅₀)
No data were identified for the product as a whole. Data are for constituents:
Biosoluble glass mineral wool - Not applicable.
Thermo set, inert polymer based on cured phenol formaldehyde resins. - Not applicable.

Acute toxicity - inhalation
Notes (inhalation LC₅₀)
No data were identified for the product as a whole. Data are for constituents:
Biosoluble glass mineral wool - Not applicable.
Thermo set, inert polymer based on cured phenol formaldehyde resins. - Not applicable.

Skin corrosion/irritation
May cause mechanical irritation to skin.

Serious eye damage/irritation
May cause mechanical irritation to eyes.

Respiratory sensitization
No data were identified for this product or its constituents.

Skin sensitization
No data were identified for this product or its constituents.

Germ cell mutagenicity
Genotoxicity - in vitro
No data were identified for this product or its constituents.

Genotoxicity - in vivo
No data were identified for this product or its constituents.

Carcinogenicity
Results from a biopersistence test by intratracheal instillation has shown that fibers in this product longer than 20 μm have a weighted half-life less than 40 days, thus this product is not classified as a carcinogen. None of the components of this product are listed as a carcinogen by OSHA, IARC or NTP.

Reproductive toxicity
Reproductive toxicity - fertility
No data available for this product or its constituents.
Glass Mineral Wool Insulation

Reproductive toxicity - development
No data available for this product or its constituents.

Specific target organ toxicity - single exposure
STOT - single exposure
No data were identified for this product or its constituents.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
No data were identified for this product or its constituents.

Aspiration hazard
Aspiration hazard
Not relevant.

Inhalation
Mechanical irritation to upper respiratory tract.

Ingestion
Non-hazardous when ingested.

Skin Contact
Mechanical irritation to skin.

Eye contact
Mechanical irritation to eyes.

Medical Symptoms
Contact with skin, eyes and upper respiratory system may cause mechanical irritation.
Biosoluble glass mineral wool is classified as a nuisance dust by OSHA.

12. Ecological information

Toxicity
This product is not ecotoxic to air, water or soil, by composition.

Persistence and degradability
Inert inorganic product with Thermo set, inert polymer based on cured phenol formaldehyde resins; 3 - 17%

Bioaccumulative potential
Will not bioaccumulate.

Partition coefficient
Not relevant.

Mobility in soil
Not considered mobile. Less than 1% leachable organic carbon if landfilled.

Other adverse effects
None known.

13. Disposal considerations

Waste treatment methods
Dispose of in accordance with all applicable regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Disposal methods
This product is not regulated under RCRA Hazardous Waste Regulations. May be disposed in landfill. If unsure, contact the local office of the USEPA, your local public health department or the local landfill regulators.

14. Transport information

General
The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

UN Number
Glass Mineral Wool Insulation

UN No. (International)  Not applicable.

UN proper shipping name
Proper shipping name (International)  Not applicable.

Transport hazard class(es)
Transport Labels (International)  No transport warning sign required.

Packing group
Packing group (International)  Not applicable.

Environmental hazards
Environmentally Hazardous Substance  No.

Special precautions for user
Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  Not applicable.

15. Regulatory information

Regulatory Status  This product is regulated as a nuisance dust under OSHA criteria. In accordance with industry practice, Knauf Insulation has decided to continue to provide its customers with the appropriate information for the purpose of assuring safe handling and use of mineral wool throughout the product life.

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities  Not regulated.


SARA 313 Emission Reporting  Not listed.

SARA (311/312) Hazard Categories  Not regulated.

US State Regulations
California Proposition 65 Carcinogens and Reproductive Toxins

WARNING
This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Formaldehyde

Inventories
Glass Mineral Wool Insulation

US - TSCA
All the ingredients are listed or exempt.

16. Other information

Abbreviations and acronyms used in the safety data sheet
- CAS: Chemical Abstracts Service.
- IATA: International Air Transport Association.
- NIOSH: The National Institute for Occupational Safety and Health.
- OSHA: Occupational Safety and Health Administration.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- PEL: Permissible Exposure Limit.
- SARA: Superfund Amendments and Reauthorization Act.
- TLV: Threshold Limit Value.
- TSCA: Toxic Substances Control Act.
- USEPA: United States Environmental Protection Agency.
- vPvB: Very Persistent and Very Bioaccumulative.

General information
All products manufactured by Knauf Insulation are made of non-classified fibers and are certified by EUCEB. Products meeting EUCEB certification requirements can be recognised by the EUCEB logo printed on the packaging.

Further information can be obtained from:
www.euceb.org     www.knaufinsulation.com

Revision comments
§1

Supersedes date
11/12/2018

Revision date
12/6/2019

Revision
2.3

SDS No.
4663

Hazard statements in full
- H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H330 Fatal if inhaled.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.

Other information
In 2001, the International Agency for Research on Cancer (IARC) reclassified glass mineral wool fibres from Group 2B (possibly carcinogenic) to Group 3 «agent which cannot be classified as for their carcinogenicity to humans». (See Monograph Vol 81, http://monographs.iarc.fr/)

This Safety Data Sheet / Product Data Sheet does not constitute a workplace assessment. Information contained in this document represents the state of our knowledge regarding this product as of the date of issue of the document. Attention of users is drawn to possible risks taken when the product is used for other applications than the ones it has been designed for.