



Safety Data Sheet
acc. to OSHA HCS

Printing date 03/19/2015

Version: 5. 1

Reviewed on 03/19/2015

1: Identification

- **1.1 Product identifier**
- **Trade name: Glass Micro Fiber of A, B, and C glass**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Uses advised against: -**
- **Application of the substance / the mixture**
Manufacturing of:
glass fiber papers
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Lauscha Fiber International Corp.
105 Eastport Lane
Summerville, SC 29483 (USA)
Phone: (+1) 843 871 3200
Fax : (+1) 843 871 8866
Email : info@LFIfiber.com
- **E-mail competent person:**
sds@kft.de
wrodigas@unifrax.com
- **Information department:** QS; Mr. Wolfgang Rodigas Tel.: +49-36702-287-17/-24
- **1.4 Emergency telephone number:** Information department

2: Hazard(s) identification

- **2.1 Classification of the substance or mixture**
- **Classification**



GHS08 Health hazard

- Carc. 2 H351 Suspected of causing cancer. Route of exposure: Inhalative.
- **Information concerning particular hazards for human and environment:**
Under working conditions mainly resorbed via respiratory tract.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **2.2 Label elements**
- **Hazard pictograms** GHS08
- **Signal word** Warning
- **Hazard statements**
H351 Suspected of causing cancer. Route of exposure: Inhalative.
- **Precautionary statements**
P201 Obtain special instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P202 Do not handle until all safety precautions have been read and understood.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**
Health = 2
Fire = 0
Reactivity = 0



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- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Substance characteristics do not meet screening criteria.
- **vPvB:** Substance characteristics do not meet screening criteria.

3: Composition/information on ingredients

· **3.1 Chemical characterization: Substances**

Composition (in %)	A-Glas	B-Glas	C-Glas
SiO ₂	69,0 – 72,0	55,0 – 60,0	63,0 – 67,0
Na ₂ O	10,5 – 12,0	9,8 – 13,5	14,0 – 17,0
K ₂ O	4,5 – 6,0	2,5 – 4,0	0,0 – 2,0
CaO	5,0 – 7,0	1,5 – 5,0	4,0 – 7,0
MgO	2,0 – 4,0	0,7 – 2,0	2,0 – 4,0
Al ₂ O ₃	2,5 – 4,0	4,0 – 7,0	3,0 – 5,0
B ₂ O ₃	< 0,15	8,0 – 11,0	4,0 – 7,0
BaO	3,6 – 6,0	< 0,1	
ZnO	0,0 – 2,0	2,0 – 5,0	< 0,1
F ₂	-	< 1,0	< 1,0

- **CAS No. Description**
(NO CAS RN) SYNTHETIC VITREOUS FIBERS

· **Identification number(s) -**

- **TSCA**
All components are listed.
UVCB
no TSCA entry defined

4: First-aid measures

- **4.1 Description of first aid measures**
- **General information:** If symptoms persist or in case of doubt seek medical advice.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse the eyes with open eyelids for 10 - 15 minutes with water. Then consult a doctor (eye specialist).
- **After swallowing:**
Unintentional swallowing is not very likely in the industrial area. If product is ingested:
Rinse mouth with water.
Drink 3 - 4 glasses of milk or water
Seek immediate medical advice.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5: Fire-fighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
The product is not combustible and does not support combustion.
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No data available

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- **5.2 Special hazards arising from the substance or mixture** No specific hazards known.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective clothing.
Keep unprotected persons away.
- **6.2 Environmental precautions:** No special measures required.
- **6.3 Methods and material for containment and cleaning up:**
Send for recovery or disposal in suitable receptacles.
Pick up with a suitable vacuum cleaner.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Keep receptacles tightly sealed.
Restrict the quantity stored at the work place.
Avoid inhalation of dust.
Avoid contact with eyes and skin.
- **Information about protection against explosions and fires:** Observe the general rules of industrial fire protection.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Not required
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from feed.
- **Further information about storage conditions:**
Store in dry conditions.
Protect from humidity and water.
- **Storage class:** 13 Non combustible solid
- **7.3 Specific end use(s)** No further relevant information available.

*** 8: Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see section 7.
- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:**
TWA 3 fibers/cm³ (fibers with diameter < or = 3.5 µm & length > or = 10 µm.) TWA 5 mg/m³ (total)
OSHA PEL: TWA 15 mg/m³ (total) TWA 5 mg/m³ (resp)
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.

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- Keep away from foodstuffs, beverages and feed.
- Do not eat or drink while working.
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes and skin.
- Do not inhale dust / smoke / mist.
- Vacuum clean contaminated clothing. Do not blow or brush off contamination.
- Use skin protection cream for skin protection.
- All protective equipment used shall be according to 29 CFR.1910 Subpart I Personal Protective Equipment

• **Breathing equipment:**

In case of unintentional release of substance, exceeding the occupational exposure limit value:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Short term filter device:

Filter P2

Breathing equipment is only to be used in order to handle the residual risk of short term jobs if all other risk minimizing measures have been carried out e.g. retention and/or local exhaust.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

• **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

After use of gloves apply skin-cleaning agents and skin cosmetics.

• **Material of gloves -**

• **Penetration time of glove material -**

• **Eye protection:** At formation of dust or insufficient ventilation: Tightly sealed goggles.

• **Body protection:**

Dust-proof protective clothing

Selection of protective clothing is subject to the specific kind of work and the corresponding risk potential.

9: Physical and chemical properties

• **9.1 Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form: Solid in various forms

Color: White

• **Odor:** Odorless

• **Odour threshold:** Not applicable

• **pH-value at 20 °C (68 °F):** 8-10 (DIN 54275)

• **Change in condition**

Melting point/Melting range: ~ 920-1220 °C (~ 1688-2228 °F)

Boiling point/Boiling range: Not applicable

Fusion temperature / range: ~ 700 °C (~ 1292 °F)

• **Flash point:** Not applicable.

• **Flammability (solid, gaseous):** Not determined

• **Ignition temperature:** Not applicable

• **Decomposition temperature:** Not determined

• **Danger of explosion:** Product does not present an explosion hazard.

• **Explosion limits:**

Lower: Not applicable

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<ul style="list-style-type: none"> Upper: Not applicable · Oxidizing properties None 	
<ul style="list-style-type: none"> · Density at 20 °C (68 °F): ~ 2.4- 2.9 g/cm³ (~ 20.028- 24.20 lbs/gal) · Vapour density Not determined. 	
<ul style="list-style-type: none"> · Solubility in / Miscibility with Water: Practically insoluble 	
<ul style="list-style-type: none"> · Partition coefficient (n-octanol/water): Not applicable 	
<ul style="list-style-type: none"> · Viscosity: <li style="padding-left: 20px;">Dynamic: Not applicable. <li style="padding-left: 20px;">Kinematic: Not applicable. · 9.2 Other information No further relevant information available. 	

10: Stability and reactivity

- **Possibility of hazardous reactions:** No further relevant information available.
- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Water and humidity
- **10.6 Hazardous decomposition products:**
No hazardous decomposition products if instructions for storage and handling are followed

11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
Due to the physiochemical properties testing of acute oral and dermal toxicities not relevant
Inhalation: results from long-term inhalation toxicity studies are available, therefore no testing of acute toxicity is required.
- **Primary irritant effect:**
- **on the skin:** No irritating effect species: rabbit OECD test 404
- **on the eye:** Eye irritation is possible after mechanical influence (dust).
- **On respiratory tract:** No irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):**
- **Effects on reproduction, carcinogenic and mutagenic effects:**
Due to the structure and properties of the substance no adverse effects with regard to reproduction or mutagenicity are expected.
The international cancer research centre (IARC) classifies this substance as a class 2B carcinogen (possibly carcinogenic for humans).
Inhalative NOAEL(canc) > 30 mg/m³ (rat)
inhalation: aerosol; nose only
Exposure: 6h/d, 5d/week - 24 months
(No significant effect was observed at 30 mg/m³ Corresponding to 243 WHO fibres/cm³)
There is sufficient evidence in experimental animals for the carcinogenicity of special-purpose glass fibers including E-glass and 475 glass fibers. Overall evaluation: Special-purpose glass fibers such as E-glass and 475 glass fibers are possibly carcinogenic to humans (Group 2B). /Special-purpose glass fibers/

There is inadequate evidence in humans for the carcinogenicity of refractory ceramic fibers. There is sufficient evidence in experimental animals for the carcinogenicity of refractory ceramic fibers. Overall Evaluation: Refractory ceramic fibers are possibly
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carcinogenic to humans (Group 2B). /Refractory ceramic fibers/

There is inadequate evidence in humans for the carcinogenicity of glass wool. There is inadequate evidence in humans for the carcinogenicity of continuous glass filament. There is inadequate evidence in humans for the carcinogenicity of rock (stone) wool/ slag wool. There is limited evidence in experimental animals for the carcinogenicity of insulation glass wool. There is limited evidence in experimental animals for the carcinogenicity of rock (stone) wool. There is limited evidence in experimental animals for the carcinogenicity of slag wool. There is inadequate evidence in experimental animals for the carcinogenicity of continuous glass filament. Overall Evaluation: Insulation glass wool, continuous glass filament, rock (stone) wool and slag wool are not classifiable as to their carcinogenicity to humans (Group 3). /Insulation glass wool, continuous glass filament, rock (stone) wool and slag wool/

• **Additional toxicological information:**

• **Carcinogenic categories**

• **IARC (International Agency for Research on Cancer)**

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• **NTP (National Toxicology Program)** Substance is not listed.

• **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12: Ecological information

• **12.1 Toxicity**

• **Aquatic toxicity:**

EC₅₀/72h > 1000 mg/l (Daphnia magna) (OECD 202)

> 1000 mg/l (Pseudokirchneriella subcapitata) (OECD 201)

LC₅₀/96h (static) > 1000 mg/l (Danio rerio) (OECD 203)

static renewal test i.e. all test media were changed every 24 hours

• **12.2 Persistence and degradability** No further relevant information available.

• **Other information:**

Inorganic substance; not biodegradable

No hydrolysis

• **12.3 Bioaccumulative potential** Potential for bioconcentration in aquatic organisms is low.

• **12.4 Mobility in soil** Not relevant

• **Additional ecological information:**

• **General notes:** Generally not hazardous for water

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

• **PBT:** Substance characteristics do not meet screening criteria.

• **vPvB:** Substance characteristics do not meet screening criteria.

• **12.6 Other adverse effects** No further relevant information available.

13: Disposal considerations

• **13.1 Waste treatment methods**

• **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Contact manufacturer for recycling information.

Disposal according to instructions of local authorities

• **Uncleaned packagings:**

• **Recommendation:** Disposal must be made according to official regulations.



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14: Transport information

· 14.1 UN-Number · DOT, ADR, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · DOT, ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · DOT, ADR, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · DOT, ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	-

15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **MAK (German Maximum Workplace Concentration)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **National regulations:**
- **Information about limitation of use:** Employment restrictions concerning pregnant and lactating women must be observed.
- **Further information:** Version(s) 1-5 is/are not available for this language.
- **Regulation or reporting requirements USA**
- **Prop. 65 - Cancer** Substance is not listed.

16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Reasons for amendments:**
Change of address
Labelling
Threshold limit value (TLV)
- **Replaces the version dated:** 10.8.2012
- **Department issuing SDS:**
KFT Chemieservice GmbH
Im Leuschnerpark. 3 64347 Griesheim
Postfach 1451 64345 Griesheim
Germany
- Tel.: +49 6155 86829-0 Fax: +49 6155 86829-25
- **Contact:** Dr. Sonja Fischer

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• **Date of preparation / last revision** 03/19/2015 / 5. 0

• **Abbreviations and acronyms:**

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

MAL-Code: Måleteknisk Arbejdshygiejnisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Carc. 2: Carcinogenicity, Hazard Category 2

• **Sources**

Chemical Safety Report

HSDB database