



SAFE USE INSTRUCTION SHEET

#32-500 FIBERGLASS CONCRETE FIBERS

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GENERAL INFORMATION

This Safe Use Instruction Sheet is the document provided by Bon Tool Co. to communicate recommended safe handling and use instruction for articles not regulated by OSHA Hazard Communication Standard, 29 CFR 1910.1200

1. PRODUCT AND COMPANY IDENTIFICATION

Generic Product Name	Continuous Filaments Glass Fiber products, Alkali Resistant (AR) Glass fiber products
Common Names	Dry-Use Chopped Strand, Single-End Roving, Multi-End Continuous Roving, Chopped Strand Mat
Recommended Use	Industrial and professional use; reinforcement of concrete structures
Supplier Contact	Bon Tool Co. 4430 Gibsonia, Rd. Gibsonia PA 15044 724-443-7080 www.bontool.com

2. HAZARDS IDENTIFICATION

Regulatory Status	This product is not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200. Continuous Filament Glass Fiber (CFGF) Products are Articles Articles which meet the definition of 29 CFR 1910.1200 (b)(6)(v) (a manufactured item other than a fluid or a particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has an end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical (as determined in paragraph (d) of this section), and does not pose a physical hazard or health risk to employees) are not regulated by OSHA HazCom standard.
Other Information	As manufactured continuous filament glass fibers are non-respirable. May cause temporary skin and mucous membranes itching due to mechanical abrasion effect of fibers. Under normal conditions of use, these products may release dust and non-respirable fibers (Particles Not Otherwise Regulated). Under severe process conditions (e.g. shredding, crushing), these products may release very small amount of respirable particulate, some of which may be fiber-like in terms of l/d ratio (so-called "shards"). See Section 8 for Exposure Limit Data

3. COMPOSITION/INFORMATION ON INGREDIENTS

Comments	CFGF products are made of glass which is given a specific shape (filament) and dimension (filament diameter). A surface treatment (sizing) is applied to the filaments which are gathered to form a strand. The strand is further processed into a specific product design according to the down stream use of the article. The sizing is a mixture of chemicals, i.e. coupling agent, film former and polymeric resin/emulsion. The sizing content is usually below 3%.
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For Chopped Strand Mat (CSM) products, a binder is applied in a secondary step to form the mat. The binder is a mixture of polymeric resin and surfactant. The content of sizing and binder is usually below 15% of the product weight

4. FIRST AID MEASURES

Description of First Aid Measures

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| Eye contact | <ul style="list-style-type: none">• DO NOT rub or scratch eyes• Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes• If eye irritation persists: Get medical advice/attention |
| Skin contact | <ul style="list-style-type: none">• Wash off immediately with soap and plenty of cold water• DO NOT use warm water because this will open up the pores of the skin, which will cause further penetration of fibers and dust• DO NOT rub or scratch affected area• Use a wash cloth to help remove fibers and dust• If fibers are seen penetrating from the skin, the fibers can be removed by applying and removing adhesive tape so that the fibers adhere to the tape and are pulled out of the skin• If skin irritation persists, call a physician |
| Inhalation | <ul style="list-style-type: none">• Move victim to fresh air• If symptoms persist, call a physician |
| Ingestion | <ul style="list-style-type: none">• Rinse mouth with water and drink water to remove fibers from the throat• If symptoms persist, call a physician |

5. FIRE FIGHTING MEASURES

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| Flammable properties | <ul style="list-style-type: none">• Continuous Filament Glass Fiber products are not flammable, are incombustible and do not support combustion. Only the organic part is combustible and could release small quantities of undetermined hazardous substances in case of major and prolonged heat or fire |
| Suitable extinguishing media | <ul style="list-style-type: none">• Use CO2, dry chemical, or foam• Water spray or fog |
| Protective equipment and precautions for firefighters | <ul style="list-style-type: none">• As in any fire, wear self-contained breathing apparatus (SCBA) and full fire-fighting protective gear |

6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions | <ul style="list-style-type: none">• Avoid contact with eyes and skin• Avoid creating dust• Use personal protection recommended in Section 8 |
| Methods for cleaning up | <ul style="list-style-type: none">• Avoid dry sweeping• Avoid creating dust• Take up mechanically, placing in appropriate containers for disposal• Pick up and transfer to properly labeled containers• Use an industrial vacuum cleaner with a high efficiency filter to clean up dust and fiber contamination• After cleaning, flush away traces with water |

7. HANDLING AND STORAGE

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| Precautions for safe handling | <ul style="list-style-type: none">• Prevent and/or minimize dust formation |
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- Wear appropriate personal protective equipment in case of direct contact with the product

Storage Conditions

- Keep product in packaging until use to minimize potential dust generation

Incompatible materials

- None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

As manufactured continuous filament glass fibers are non-respirable. May cause temporary skin and mucous membranes itching due to mechanical abrasion effect of fibers. Under normal conditions of use, these products may release dust and non-respirable fibers (Particles Not Otherwise Regulated). Under severe process conditions (e.g. shredding, crushing), these products may release very small amount of respirable particulate, some of which may be fiber-like in terms of l/d ratio (so-called “shards”).

Chemical name	ACGIH TLV	OSHA PEL	NIOSH REL
Continuous filament glass fiber, non-respirable -	TWA: 1 fiber/cm ³ respirable fibers: length >5 μm, diameter less than 3 μm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination TWA: 5 mg/m ³ inhalable particulate matter	-	-

OSHA PEL: TWA for Inert or Nuisance Dust are: 5 mg/m³ (Respirable fraction) and 15 mg/m³ (Total dust)

Engineering Controls

Provide local exhaust and/or general ventilation to maintain exposure below regulatory and recommended limits
Local exhaust ventilation should be provided at areas of cutting, milling or other similar processing to remove airborne dust and fibers

Individual protection measures, such as personal protective equipment

Eye/face protection

- Wear safety glasses with side shields (or goggles)

Skin and body protection

- Wear protective gloves
- Wear long-sleeved shirt and long pants

Respiratory protection

- If exposure limits are exceeded or irritation is experienced, wear self-contained breathing apparatus (SCBA). Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations

General Hygiene Considerations

- Wash hands before breaks and immediately after handling products
- Remove and wash contaminated clothing before re-use

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

Solid

Appearance

Continuous filament glass fibers and mat of glass fibers, with filament diameter larger than 6 micron

Odor

Odorless

Color

white or off-white

Water solubility

Insoluble in water

Softening point

> 800°C ; > 1500°F (glass)

Density

2.6 (glass)

Explosive properties

Not an explosive

10. STABILITY AND REACTIVITY

Stability

- Stable under normal conditions

Possibility of Hazardous Reactions • None under normal processing conditions

Hazardous Decomposition Products • None under normal use conditions
• Small quantities of undetermined hazardous decomposition products may be released in case of heat exposure or during a fire

11. TOXICOLOGICAL INFORMATION

Product Information

Dusts and fibers may cause temporary skin and mucous membranes itching due to mechanical abrasion effect of fibers. Mechanical abrasion is not considered as a health hazard in the meaning of the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Inhalation may cause coughing, nose and throat irritation and sneezing. High exposures may cause difficult breathing,] congestion and chest tightness Continuous filament glass fibers are not respirable according to the World Health Organization (WHO) definition. Respirable fibers have a diameter (d) smaller than 3µm, a length (l) larger than 5µm and a l/d-ratio larger than or equal to 3. Fibers with diameters greater than 3 microns, which is the case for continuous filament glass fiber, do not reach the lower respiratory tract and, therefore have no possibility of causing serious pulmonary disease. Continuous filament glass fibers do not possess cleavage planes which would allow them to split length-wise into fibers with smaller diameters, rather they break across the fiber, resulting in fibers which are of the same diameter as the original fiber with a shorter length and a small amount of dust. Microscopic examination of dust from highly chopped and pulverised glass demonstrated the presence of small amounts of respirable dust particles. Among these respirable particles, some were fiber-like in terms of l/d ratio (so-called “shards”). It can be clearly observed however that they are not regular shaped fibers but irregular shaped particles with fiber-like dimensions. To the best of our knowledge, the exposure levels of these fiber-like dust particles measured at our manufacturing plants are of the order of magnitude between 50 to 1000 below existing applicable limits

ACGIH (American Conference of Governmental Industrial Hygienists) Continuous filament glass fibers are classified as A4 - Not Classifiable as a Human Carcinogen

IARC (International Agency for Research on Cancer) The International Agency for Research on Cancer (IARC) in June, 1987, and in October, 2001 (see IARC Monographs on the Evaluation of Carcinogenic risks to humans –Man-made Vitreous Fibers – Volume 81), categorized continuous filament fiber glass as not classifiable with respect to human carcinogenicity (Group 3). The evidence from human as well as animal studies was evaluated by IARC as insufficient to classify continuous filament fiber glass as a confirmed, probable or even possible cancer causing material

NTP (National Toxicology Program) Continuous filament glass fibers are not listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition)

OSHA (Occupational Safety and Health Administration of the US Department of Labor) X - Present

Classification according to Regulation (EC) No. 1272/2008 [CLP] Continuous filament glass fibers are not listed in the Table of harmonized classification entries in Annex VI to CLP Regulation. Mechanical abrasion is not considered as a health hazard in the meaning of European Regulation 1272/2008 (CLP).

12. ECOLOGICAL INFORMATION

This product is not expected to be hazardous for the environment

13. DISPOSAL CONSIDERATIONS

Continuous filament glass fiber waste is a non hazardous waste. Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

These products are not classified as dangerous goods according to international transport regulations

15. REGULATORY INFORMATION

International Inventories Continuous filament glass fiber products are articles. Articles are exempted from registration or listing under chemicals inventories like TSCA (USA), DSL/NDSL (CAN), REACH (EU), ENCS (JP), IECSC (CN), KECL (KR), PICCS (PH), AICS (AUS), TCSI (RC)

California Proposition 65 This product is not regulated under California Proposition 65

16. OTHER INFORMATION

AR Glass contains traces of naturally-occurring radioactive materials. The total content of Uranium and Thorium is less than 500 ppm with a total specific activity below 20 Bq/g

Disclaimer

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use

End of Safe Use Instruction Sheet