



SAFE USE INSTRUCTION SHEET

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Version 2

0. GENERAL INFORMATION

Continuous Filament Glass Fiber (CFGF) products are Articles under various international chemical Regulations, such as the European Regulation (ER) No. 1907/2006 (REACH) or the US Regulation 29 CFR 1910.1200(b)(6)(v). These Regulations require Safety Data Sheet (SDS) only for hazardous substances and mixtures. No Safety Data Sheet is legally required for Articles. Consistently with the Article status of CFGF products, Fysol provides to its customers appropriate information for assuring the safe handling and use of its Continuous Filament Glass Fiber products through this document: Safe Use Instruction Sheet.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Continuous Filament Glass Fiber Products: Rovings, Dry Chopped Strands
Synonyms	Dry-Use Chopped Strand, FoodContact™ Chopped Strand, FliteStrand® Roving, Multi-End Roving
Recommended Use	Industrial use, reinforcement of plastic
Supplier Address	FYSOL SAS 130 Avenue des Follaz 73000 CHAMBERY - FRA
Company Phone Number E-mail address	+33 (0)4 79 96 82 00 (8:00am-5:00pm Central European Time) ECarrier@fysol.com

2. HAZARDS IDENTIFICATION

Regulatory Status	Continuous Filament Glass Fiber (CFGF) products are not hazardous products according to GHS (Global Harmonized System) applicable rules. They meet the definition of <i>Article</i> according to Article 3 (3) – Definitions - of the European Regulation (EC) No. 1907/2006 (REACH), as well as the definition of <i>Article</i> of US Regulation 29 CFR 1910.1200 (b)(6)(v), as well as other definition of <i>Article</i> under various international chemical Regulations.
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 (Particulates 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

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 downstream 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%

4. FIRST AID MEASURES

Description of First Aid Measures

- | | |
|---------------------|--|
| 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 protections 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

- | | |
|--------------------------------------|--|
| Precautions for safe handling | <ul style="list-style-type: none">• Prevent and/or minimize dust formation• Wear appropriate personal protective equipment in case of direct contact with the product |
| Storage Conditions | <ul style="list-style-type: none">• Keep product in packaging until use to minimize potential dust generation |
| Incompatible materials | <ul style="list-style-type: none">• 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 (Particulates 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"). You may find here below some occupational exposure limits for Respirable dust, Total dust and Respirable Fibre.

Chemical name	USA-ACGIH TLV	USA-ACGIH TLV			USA-OSHA PEL-TWA	China-OEL
Continuous filament glass fiber, non-respirable -	Resp. dust 3 mg/m ³ Total dust 10 mg/m ³	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			Inert or Nuisance dust: Total dust 15 mg/m ³ Respirable fraction 5 mg/m ³	Total dust 8 mg/m ³
Chemical name	Austria-OEL	Belgium-OEL	Denmark-OEL	Finland-OEL	France-OEL	
Continuous filament glass fiber, non-respirable -	Resp. dust 5 mg/m ³ Total dust 5 mg/m ³ Resp. fibre 0,5 fibre/ml	Resp. dust 3 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 1 fibre/ml	Resp. dust 5 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 0,1 fibre/ml	Total dust 10 mg/m ³ Resp. fibre 1 fibre/ml	Resp. dust 5 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 1 fibre/ml	
Chemical name	Germany-OEL	Ireland-OEL	Italy-OEL	Netherlands-OEL	Norway-OEL	
Continuous filament glass fiber, non-respirable -	Resp. dust 1,25 mg/m ³ Total dust 10 mg/m ³	Resp. dust 4 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 1 fibre/ml	Resp. dust 3 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 1 fibre/ml	Resp. dust 3 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 0,5 fibre/ml	Resp. dust 5 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 1 fibre/ml	
Chemical name	Portugal-OEL	Spain-OEL	Sweden-OEL	Switzerland-OEL	United Kingdom-OEL	
Continuous filament glass fiber, non-respirable -	Resp. dust 3 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 1 fibre/ml	Resp. dust 3 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 1 fibre/ml	Resp. dust 5 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 1 fibre/ml	Resp. dust 3 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 0,5 fibre/ml	Resp. dust 4 mg/m ³ Total dust 10 mg/m ³ Resp. fibre 2 fibre/ml	

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

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, wear appropriate respiratory protections (e.g.: FFP2 or N95 or KN95) to be chosen according to the actual airborne exposure level and in accordance with applicable 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, with filament diameter larger than 6 micron
Odor	Odorless
Color	White, or, Off-white
Water solubility	Insoluble in water
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 pulverized 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 glass fiber 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
2.1 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. European Waste Code for continuous filament glass fiber is 101103.

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/NDL (CAN), REACH (EU), ENCS (JP), IECSC (CN), KECL (KR), PICCS (PH), AICS (AUS), TCSI (Taiwan)

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

16. OTHER INFORMATION

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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