



Safe Use Instruction Sheet

The European directive on Chemicals No. 1907/2006 (REACH) regulates the communication of information by Material Safety Data Sheets (MSDS) for hazardous substances and preparations. Our products made of continuous glass filaments are considered ARTICLES and MSDS's are not compulsory in terms of REACH regulation.

Saint-Gobain Vetrotex made a decision to deliver to our customers the appropriate information on safe handling and use of glass filament products through the **Safe Use Instruction Sheet**.

1 – COMPANY AND PRODUCT IDENTIFICATION

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PRODUCT IDENTIFICATION:

“Glass Yarns for Textiles”

COMMON NAMES:

TEXTILE YARNS

PLIED YARNS

VOLUMINIZED PRODUCTS

STAPLE FIBER

TEXTILE YARN BEAMS

CHOPPED STRANDS

TEXTURIZED PRODUCTS

ZEROTWIST

2 – HAZARDS IDENTIFICATION

With regard to its composition, **the products are not classified as hazardous** according to European Directive 67/548/EEC and its latest amendments.

Details about chemical hazards are given in paragraph 3. Toxicological aspects are developed in detail in chapter 11. The essential point to remember is that glass filaments are not “respirable” as they are over 3µm in diameter and have been shown not to cause lung cancer.

Hazards identified are:

- mechanical irritation (itching),
- the formation of respirable filaments,
- extremely rare possibilities of allergy.

3 - COMPOSITION – INFORMATION ON CONSTITUENTS

Glass yarn products are articles in the meaning of REACH (1907/2006/EC).

These articles are mixtures of E GLASS or C GLASS in the form of continuous strands and a SIZE.

The CAS number of glass filaments is 65997-17-3 (corresponding to the oxides used for production).

E GLASS is a glass with a very low alkaline content. Its composition (expressed in oxides) is within the following percentages:

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SiO ₂	52-56%
Alkaline Oxides (Na ₂ O, K ₂ O)	0-2%
CaO	16-25%
MgO	0-5%
B ₂ O ₃	5-10%
Al ₂ O ₃	12-16%
TiO ₂	0- 0.8%
Fe ₂ O ₃	0.05-0.4%
F ₂	0-1%

C GLASS is a glass with very high alkaline content and low aluminium oxide content. Its composition (expressed in oxides) is within the following percentages:

SiO ₂	62-67%
Alkaline Oxides (Na ₂ O, K ₂ O)	15-17%
Alkaline earth oxides (CaO, MgO)	9-12%
B ₂ O ₃	3-6%
Al ₂ O ₃	1-4%
Fe ₂ O ₃	0-1%
P ₂ O ₅	0-1%

SIZE is a mixture of chemicals applied to the glass filaments in a maximum quantity of 3% - more generally between 1% and 1.5% by weight.

Most of this mixture is made up of basically non reactive high molecular weight polymers, often natural ingredients (starches) with no reactive sites, which are not listed as substances in the EINECS nor ELINCS appendices.

In some cases, sizes are prepared from polymers with reactive sites or containing reactive monomers included in these lists. Most of the reactive sites are polymerised during the manufacturing process of E glass yarns.

A second type of ingredient (sometimes present in almost all sizes) is a member of the organo-silane family. These products account for less than 0.05% of the final weight of sized E glass. These products are included in lists of products requiring 'hazardous product' labelling in a pure state (for example in Europe R23/25 toxic if swallowed or inhaled, R21 harmful in contact with the skin, R36 irritant for the eyes).

The manufacturer considers this risk as negligible as, although listed as dangerous products, the concentration is extremely low and they are polymerised during the production of E glass filaments.

Other products can be used in sizes often acting as lubricants. Usually the content is extremely low (under 0.1% of total weight) and as a general rule such products



are not on the dangerous product lists or, as they have reacted, any possible risk has been reduced.

Our glass yarn products do not contain any of SVHC (substances of very high concern).

4 - FIRST AID MEASURES

General information: No specific measures required.

After excessive inhalation: Supply fresh air; consult a doctor in case of complaints.

After skin contact: Immediately wash with water and soap and rinse thoroughly. Do not rub or scratch affected areas. If skin irritation continues, consult a doctor.

After eye contact: Rinse opened eye for several minutes under running water and consult a doctor if necessary. Do not rub.

After swallowing: Seek immediate medical advice.

5 - FIRE FIGHTING MEASURES

In case of fire, glass yarns are not flammable, are incombustible and don't support combustion.

Only the packaging (plastic film, paper, cardboard, wood) and the small amounts of size are combustible and could release small quantities of hazardous gases.

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Protective equipment:

Mouth respiratory protective devices.

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION:

Avoid contact with the skin and the eyes. See chapter 8 for other instructions.

ENVIRONMENTAL PROTECTION:





No special measures required – all sorts of glass wastes are considered as **Common Industrial Wastes**, or even **Inert Industrial Wastes**.

CLEANING:

Vacuum clean, sweep or shovel into containers normally used for glass waste (selective collection).

7 - HANDLING & STORAGE

HANDLING :

It is preferable to avoid prolonged contact with the skin: wear the protective equipment as indicated in the chapter 8.

Prevent and minimize the dust formation.

Provide suction extractors if dust is formed.

Ensure that suitable extractors are available on processing machines.

STORAGE:

Technical measures: Respect the stacking procedure recommended for each type of product.

Storage conditions: Store away from excessive humidity to prevent damage to the product and to the packing materials which could lead to storage safety problems.
Store in a well ventilated area. and keep away from direct sunbeam.

8 - EXPOSURE CONTROL – PERSONAL PROTECTION

Ingredients with limit values that require monitoring at the workplace:

Continuous glass filaments are not respirable however certain mechanical processes might generate airborne dust or filaments (see chapter 11).

Engineering controls:

Provide local exhaust and/or general ventilation system to maintain low exposure levels.

Personal protective equipment:

Respiratory protection:

During operations releasing high quantities of dust, wear minimum FP1 or preferably FP2 EEC approved dust masks.

Protection of hands and other exposed parts of the body:





Gloves for the hands, long-sleeved garments and long leggings to prevent irritation. People with delicate skin should apply barrier cream to exposed skin areas.

Eye protection: safety goggles (or masks) or safety glasses.

9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	solid
FORM:	bobbins of yarn, chopped strands
COLOUR:	white or yellowish white
ODOUR:	none
SOFTENING POINT:	appr. 850 °C (E glass) / 690 °C (C glass)
MELTING POINT:	not applicable.
DECOMPOSITION TEMPERATURE:	Only size products start to decompose at 200°C
FLASH POINT:	none
EXPLOSIVE PROPERTIES:	none
DENSITY (molten glass):	2.6 g / cu. cm.
SOLUBILITY:	very low solubility in water. Sizes can be partially (and even totally) dissolved in most organic solvents.

10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY

Stable in normal use and storage conditions, and in normally foreseeable usage conditions.

HAZARDOUS REACTIONS

No chemical hazardous reaction is foreseeable

HAZARDOUS DECOMPOSITION PRODUCTS

See Chapter 5 for hazardous decomposition products during fire.

11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: not relevant

LOCALISED EFFECTS: **possible temporary irritations**

This irritation is of a purely mechanical and temporary nature. It disappears when exposure is ended. It can affect the skin, the eyes and the upper respiratory tracts. In Europe,

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mechanical irritation is not considered to be a health hazard within the terms of European directives 67/548/EEC for hazardous products. This is confirmed by the fact that EC Directive 97/69/EC for mineral fibres does not stipulate the need to use an Xi (irritant) label nor a classification for continuous glass filaments.

SENSITISATION: some **allergies** to continuous glass filaments have been declared.

LONG TERM TOXICITY:
Continuous glass filaments are not respirable (i.e. do not penetrate the lung alveoli). This is because filaments are over 3µm in diameter.

Regulatory situation:

Following the IARC conclusion, **glass filaments are not classified as to their carcinogenicity**. They belong to the **Group 3 of IARC**. This classification has been confirmed by the IARC Working Group during his meeting of October 2001 and in the latest issue of the IARC monographs on the evaluation of carcinogenic risks to humans volume 81 on Man-made vitreous s, published in 2002.

The International Labour Office (ILO) and the CSIP (Chemical Safety International Program) came to the same conclusions in a congress held in 1987.

European Commission Directive 97/69/EC dated 5/12/97, the 23rd amendment to Directive 67/548/EEC which concerns classification, packing and labelling of hazardous substances did not think it necessary to include glass filaments as having carcinogenic risks. OSHA (Occupational Safety and Health Administration) and NTP (U.S. National Toxicology Program), official American organisations, have not listed glass filaments products as hazardous substances and the ACGIH (American Conference of Governmental Industrial Hygienists) has classified them as A4 (not classified as carcinogenic for Man). They are not concerned by the Canadian Controlled Products regulations (CPR).

MUTAGENIC RISKS, TERATOGENIC RISKS, RISKS FOR REPRODUCTION: no known risks.

12 - ECOTOXICOLOGICAL INFORMATION

The products are not expected to cause harm to animals, plants nor fish.

13 – DISPOSAL CONSIDERATION





Depending on local regulations, glass filament wastes can either be considered as **inert waste** or as **common industrial waste**. As such they can be buried in landfills approved for these categories.

Smaller quantities can be disposed of with household waste.

14 – TRANSPORT INFORMATION

INTERNATIONAL REGULATIONS:

Glass products are not considered as hazardous goods by transport regulations (IMDG, ADR/RID, ICAO/ IATA, DOT, TDG, MEX).

15 - REGULATORY INFORMATION

Continuous glass filament products do not require hazardous product labelling (see Chapter 11).

Glass yarn products are articles and for this reason they have not to be listed in most of the countries, for instance in the list EINECS in Europe, ELINCS, TSCA for the USA, DSL and NDSL for Canada, CSCL for Japan, AICS for Australia, PICCS for Philippine, KECL for South Korea, etc.

16 - OTHER INFORMATION

The information given by this document is based on the best knowledge at the date shown. Furthermore, users' attention is drawn to the possible risks run when the product is used for any purpose other than the one for which it was designed.

