

Introduction

The European directive on Chemicals No. 1907/2006 (REACH) regulates the communication of information by Safety Data Sheets (SDS) for substances and mixtures. Our products made of continuous glass filaments are considered ARTICLES and SDS'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 Instructions Sheet**.

1. Product and company identification

Product identification	E - Glass Yarns and Chopped Strands, C Glass Staple Fiber and C Glass Cullets (Pellets) for technical applications
Common names	Textile Yarns, Textile Yarn Beams, Volumized Yarns, Texturized Yarns, Staple Fiber, Cakes, Zerotwist , Chopped Strands, C Glass Cullets (pellets)
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Health issues Information	Phone + 33(0) 432 500 970 Phone + 49 241 516 2041

2. Hazards identifications

Continuous filament glass fibres are not classified under the European Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP) and its subsequent amendments.

Details about chemical hazards are given in paragraph 3. Toxicological aspects are developed in detail in chapter 11.

Glass filaments are over 3µm in diameter. So, they do not reach the lower respiratory tract and, therefore have no possibility of causing serious pulmonary disease

Hazards identified are:

- mechanical irritation (itching),
- formation of respirable filaments (in case of high mechanical overload i.e. milling, grinding ...)
- extremely rare possibilities of allergy.

3. Composition – information on constituents

Glass yarn and C- Glass cullets (pellets) 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 or staple fibers and a size or cullets (pellets).

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

E- GLASS is a glass with a very low alkaline content.

C- GLASS is a glass with very high alkaline content and low aluminium oxide content.

Glass compositions (expressed in oxides) are within the following percentages:

	E glass	C glass
SiO ₂	52-56%	62-67%
CaO	16-25%	16-25%
Al ₂ O ₃	12-16%	1-4%
B ₂ O ₃	5-10%	3-6%
F ₂	0-1%	
Alkaline oxides (Na ₂ O, K ₂ O)	0-1%	15-17%
TiO ₂	0-0,8%	----
Fe ₂ O ₃	0,05-0,4%	0-1%
MgO	0-5%	----
Alkaline earth oxides (CaO,MgO)	----	9-12%
P ₂ O ₅	----	0-1%

SIZE is a mixture of chemicals applied to the glass filaments in a maximum quantity of 2% more generally between 0,5% - 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 (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 - H301/H331 toxic if swallowed or inhaled, R21 - H315 harmful in contact with the skin, R36 - H319 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.

In regard to regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012, Glass yarn and C- Glass cullets (pellets) products are 'treated articles'.

These articles are treated with biocidal products containing the following actives substances:

- 2-methylisothiazol-3(2H)-one CAS 2682-20-4
- Pyrithione zinc CAS 13463-41-7
- 1,2-benzisothiazol-3(2H)-one CAS 2634-33-5

All these substances are included in the Review Programme for existing active substances used in biocidal products for the Product-type 6: Preservatives for products during storage.

Our glass yarn and cullets (pellets) products do not contain, in concentration above 0.1% in weight, any substances on the SVHC list (substances of very high concern) published by the ECHA on October 28th, 2008 or in the last up-date.

4. First aid measures

General information	No specific measures required
After excessive inhalation	Supply fresh air; consult a doctor in case of complaints once exposed to dusty environment
After skin contact	In case of exposure to dust and consequent irritation immediately wash under running water and soap and rinse thoroughly. Do not rub or scratch affected areas. If skin irritation continues, consult a doctor.
After eye contact	Once a dust particle enters into eyes, rinse opened eye for several minutes under running water, keeping eyelids open and consult a doctor if necessary. Do not rub or scratch eyes.
After swallowing	Seek immediate medical advice

5. Fire fighting measures

In case of fire, glass yarns and cullets (pellets) 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:

Respiratory protective devices.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.

6. Accidental release measures

Personal protection:

Just in case of dusty environment 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 during the processing of the products.

Provide local exhaust ventilation if dust is formed on the processing machinery

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 good 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:

Protective gloves for the hands, long-sleeved shirts and long pants 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, cullets (pellets), staple fiber, cakes.
Colour	White or yellowish white
Odour	none
Softening point	approx.. 850 °C (E-glass) approx. 690 °C (C-glass)
Melting temperature	not applicable
Decomposition temperature	only sized products start to decompose at 200°C
Flash point	none
Explosive properties	none
Density (molten glass)	2,6g /cm ³
Solubility	Insoluble in water Sizes can be partially (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. As already identified, some substances may be released during hot processes or storage.

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 irritation

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. This mechanical irritation is not considered to be a health hazard within the terms of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures as Continuous filament

glass fibres are not classified under this regulation. There is no need to use an Xi (irritant) label.

Sensitisation:

Some allergies to continuous glass filaments have been declared.

Long term toxicity:

Continuous glass filaments are not respirable according to the World Health Organisation (WHO) definition.

Respirable fibers have a diameter (d) smaller than $3\mu\text{m}$, a length (l) larger than $5\mu\text{m}$ and a l/d ratio larger than or equal to 3.

Fibers with diameters greater than 3μ , which is the case for continuous filament glass fibre, do not reach the lower respiratory tract and therefore have no possibility of causing serious pulmonary disease.

Regulatory situation:

Following the IARC (International Agency for Research on Cancer) 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, 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.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures does not classified continues 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:

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 and C glass cullets (pellets) wastes can either be considered as **inert industrial waste** or as **common industrial waste**. As such they can be buried in landfills approved for these categories.

Our products are not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

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 and C glass cullets (pellets) products do not require hazardous product labelling (see Chapter 11).

Glass yarn and C glass cullets (pellets) 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.