

GLASS**1. COMPANY AND PRODUCT IDENTIFICATION****PRODUCT IDENTIFICATION**

Glass Yarns for Textiles

COMPANY IDENTIFICATIONHead Quarters: Saint-Gobain Vetrotex Deutschland GmbH
Bicherouxstraße 61 – Postfach 1160
D-52111 Herzogenrath (Nemecko)
Tel : + 49 2406 810
Fax : + 49 2406 79287**PRODUCT MANUFACTURER:**Texpack Srl unipersonale
Via Bornico, 24 - 25030 Adro (Bs)
Tel. +39 0307480168 - Fax +39 0307480201
E-mail info@texpack.it - Sito www.texpack.it**2. HAZARDS IDENTIFICATION**

With regard to their composition, the products are not classified as hazardous according to the European Directive 67/548/EEC and its latest amendments. Details about chemical hazards are given in paragraph 3. Toxicological aspects are dealt with in detail in chapter 11. The essential fact is that glass filaments are not "respirable" as they are over 3Lm in diameter and have been shown not to cause lung cancer.

Hazards identified are:

- Mechanical irritation (itching),
- Formation of respirable filaments,
- Extremely rare possibilities of allergy.

3. COMPOSITION – INFORMATION ON CONSTITUENTS

These articles are mixtures of E GLASS or C GLASS in the form of continuous strands and a SIZE. The CAS code of glass filaments is 65997-17-3 (corresponding to the oxides used in production).

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

COMPOSIZIONE IN %			
SiO ₂	52-56%	AL ₂ O ₃	12-16%
Alkaline Oxides	0-2%	TiO ₂	0-0,8%
CaO	16-25%	Fe ₂ O ₃	0,05-0,4%
MgO	0-5%	F ₂	0-1%
B ₂ O ₃	5-10%		

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:

COMPOSIZIONE IN %			
SiO ₂	62-67%	Fe ₂ O ₃	0-1%
Alkaline Oxides (NA ₂ O K ₂ O)	15-17%	P2O25	0-1%
Alkaline earth oxides (CaO Mgo)	9-12%		
B ₂ O ₃	3-6%		
AL ₂ O ₃	1-4%		

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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 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 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 INHALATION:** Supply fresh air; consult a doctor in case of complaints
- AFTER SKIN CONTACT:** Immediately wash with soap and water and rinse thoroughly. Do not rub or scratch affected areas. If skin irritation continues, consult a doctor
- AFTER EYE CONTACT:** Rinse open eyes for several minutes under running water and consult a doctor if necessary. Do not rub.
- AFTER SWALLOWING:** Seek medical advice immediately

5. FIRE FIGHTING MEASURES

In case of fire, glass yarns are not flammable, are incombustible and do not support combustion. Only the packaging (plastic film, paper, cardboard, wood) and 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 flow 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 skin and 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)

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7. HANDLING & STORAGE

HANDLING:

It is necessary to avoid prolonged contact with skin: wear the protective equipment as indicated in the chapter 8. Prevent and minimize dust formation. Provide suction extractors if dust is formed. Ensure that suitable extractors are available on processing machines.

STORAGE:

Technical measures: Observe the stacking procedure recommended for each type of product.
Storage conditions: Store away from excessive humidity to prevent damage to the product and packing materials which could lead to storage safety problems. Store in a well ventilated area and keep out of the direct sun.

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 EHS-approved dust masks.

Protection of hands and other exposed parts of the body:

Gloves, long-sleeved garments and long trousers 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: approx. 850 °C (E glass) / 690 °C (C glass)
MELTING POINT: not applicable.
DECOMPOSITION
TEMPERATUR: Only size products start to decompose at 200°C
FLASH POINT: none
EXPLOSIVE PROPERTIES: none
DENSITY (molten glass): 2.6 g / cm³
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, disappearing when exposure is ended. It can affect skin, eyes and upper respiratory tracts. In Europe, mechanical irritation is not considered a health hazard in terms of the European directives 67/548/EEC for hazardous products. This is confirmed by the fact that the EC Directive 97/69/EC for mineral fibres neither stipulates the need to use an Xi (irritant) label nor a classification for continuous glass filaments.

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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 its meeting in 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 substances) 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.

The European Commission Directive 97/69/EC dated 5/12/97, the 23rd amendment to the Directive 67/548/EEC which concerns classification, packing and labelling of hazardous substances did not find it necessary to classify glass filaments as a carcinogenic risk. OSHA (Occupational Safety and Health Administration) and NTP (U.S. National Toxicology Program), i.e. the 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 humans). These products are not classified by the Canadian Controlled Products Regulations (CPR).

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

12. ECOTOXICOLOGICAL INFORMATION

The products are not expected to cause harm to animals, plants or fish.

13. DISPOSAL INSTRUCTIONS

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 hazardous goods by transport regulations (IMDG, ADR/RID, ICAO/ IATA, DOT, TDG, MEX).

15. STATUTORY PROVISIONS

Continuous glass filament products do not require hazardous product labelling (see Chapter 11). Glass yarn products are articles and for this reason they need not be listed in most 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 the Philippines, KECL for South Korea, etc.

16. OTHER INFORMATION

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

This safety data sheet completes but it does not replace the documents containing further information and in general the technical literature. The information enclosed in this document are based on data renowned at the moment and they are published bona fide. Moreover, we draw your attention on the possible risks that you might face if you use this product for other purposes that are not correct. This safety data sheet does not exempt the users from knowing and respecting the rules that regulate their activities. users have full responsibility and liability when they adopt proper health and safety measures regarding the use of this product.