Safe Use Instruction Sheet

The European Directive on Chemicals No. 1907/2006 (REACH) regulates the communication of information by Safety Data Sheets (SDS) for hazardous 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 ADFORS 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:

"Woven and Non Woven Technical Fabrics"

COMMON NAMES:

Mesh fabrics (Vertex®)
Insect screens (New York Wire®)
Glass loose fibre
Glass veil
RECO fabrics
E-fabrics
Cement Board reinforcement
Glass reinforcement grid (GlasGrid®)
Grinding Wheels (glass filament impregnated weaves for the abrasive industry)
Dry wall tapes (FibaTape®)
Wall coverings (Novelio®)
Laid scrims
Coated glass veil
TECO fabrics
TwinFab®

2 – HAZARDS IDENTIFICATION

The products are composed of glass filaments above 3µm in diameter, consequently not reach the lower respiratory tract and therefore have no possibility of causing serious pulmonary disease. The products are **not classified as hazardous** according to 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. Mechanical irritation (itching), eventually allergy (extremely rare), may be produced by dust generated on product processing. Under some conditions, the products may release Formaldehyde and other hazardous substances (see Chapter 3 COMPOSITION).

3 - COMPOSITION – INFORMATION ON CONSTITUENTS

Continuous filament glass 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 filaments and a **SIZE** with, in addition, a **BINDER** or **COATING**.

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.

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

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SIZE is a mixture of chemicals applied to the glass filaments in a maximum quantity of 2% - more generally between 0.5% 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 (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.

BINDERS in case of glass veils are water based phenol-formaldehyde (PF), melamine-formaldehyde (MF), urea-formaldehyde (UF), or polyvinyl, acrylic resins, other latex emulsions, starch, other bio sourced raw materials or blends of these binders. Their content in the glass veil is between 5 and 30 % by weight. Binders can contain black or yellow dyes.

No BINDER nor impregnation in case of Glass Loose Fibers and some TECO Fabrics (Greige fabrics, Caramelized fabrics)

COATING in case of glass veil are mineral based.
Calcium carbonate (CAS 1317-65-3) content < 80% by weight
Metal hydroxides (CAS1318-23-6 ; CAS 1309-42-8) content < 20% by weight.

COATING in case of grinding wheels are generally phenolic resins, and some polyurethane resins. Their content in the final product keeps the range 26 – 33 % by weight; in cases of certain products the content can reach 50 %.

COATING in case of wall covering, mesh, RECO/E-fabrics, laid scrims and TwinFab are polyvinyl alcohol (laid scrim), ethyl vinyl acetate polymer (wall covering, RECO/E-fabrics) and water dispersion of styrene-butadiene (mesh fabrics, TwinFab) coatings.

COATING in case of insect screens is PVC based coating with PVC plasticizer.
Polyvinyl Chloride (CAS 9002-86-2) content < 40 % by weight
Di-isononylphtalate (CAS 28553-12-0) content < 20 % by weight

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COATING in case of glass reinforcement grid is Polymer binder-acrylic copolymer and Carbon Black
Carbon Black (CAS 1333-86-4) content <0.2% by weight

COATING in case of Cement Board is PVC based coating.
Alkanes, C14-17, chloro (CAS 85535-85-9) content <5% by weight
Solvent naphtha (petroleum), heavy arom (CAS 64742-94-5) content <2% by weight
Ethene, chloro-, homopolymer (CAS 9002-86-2) content <60% by weight

Hazardous substances potentially released from the products:

Product	Binder	Coating
Glass veils Glass veils (AF; AG; AP; AT; AW; PA; S)	Formaldehyde content < 0,1 % by weight* Formaldehyde under detection level*	No hazardous substances
Grinding wheels	No hazardous substances	Phenol content < 1 % by weight Formaldehyde <0,1% Methanol <0,1% Methenamine <0,1 %

*Test method ISO 16000

Our 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 with 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 and consult a doctor if necessary. Do not rub.

5 - FIRE FIGHTING MEASURES

In case of fire, glass filaments are not flammable, are incombustible and don't support combustion.
Only the packaging (plastic film, paper, cardboard, wood) and the small amounts of size or binder/PVC coating are combustible and could release some hazardous gases.

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Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Protective equipment:
Do not inhale combustion gases.
Wear fully protective suit including the SCBA (Self-Contained Breathing Apparatus)

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 **Inert Industrial Wastes**, or **Common Industrial Wastes** except for glass filament impregnated weaves for the abrasive industry (Grinding Wheels) which may be classified as Hazardous waste depending on local legislative standards.

CLEANING:
Vacuum clean, sweep or shovel into containers normally used for glass filament 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 products.
Provide local exhaust ventilation (LEV) if dust is formed on the processing machinery.

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.

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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). Air monitoring could then be conducted to check the compliance to exposure limits applicable to generic dust or dust with no specific toxicity.
In case of grinding wheels and glass veils a low amount of the chemical substances stated in the chapter "3 – Composition" may be released from the products depending on handling and process applications. Especially if the product is heated-up or stored in closed and poorly ventilated areas an exposure monitoring should be conducted.

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. In case of non-compliance to exposure limits of chemical substances as mentioned in the chapter "3-Composition" relevant cartridges must be used.

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:	Rolls or strips of coated fabrics, veils, wheels cut of fibreglass grid, fiberglass mesh
COLOUR:	White or yellowish white, yellow, black, grey
ODOUR:	By opening the packages some smell of phenol or methanol may arise (grinding wheels)
SOFTENING POINT:	appr. 850 °C (E glass) and 690 °C (C glass)
MELTING POINT:	Not applicable.
DECOMPOSITION TEMPERATURE:	Only size and binder/coating 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 and impregnating resins can be partially (and even totally) dissolved in most organic solvents.

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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

11.1 Glass filaments

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. 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 3µm, a length (l) larger than 5µm 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 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 fibres, 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.

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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, RISKS FOR REPRODUCTION: no known risks.

11 .2 - Other components of binders and coatings

Certain substances being a part of components for applicated binders and coatings as specified in the chapter “3 – Composition” have specific toxicity. See relevant documents and standards for further information on their regulatory classification and scientific evaluation.

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, special non dangerous waste** or as **common industrial waste** except for glass filament impregnated weaves for the abrasive industry (Grinding Wheels) which may be classified as Hazardous waste depending on local legislative standards.
As such they can be buried in landfills approved for these categories.

14 – TRANSPORT INFORMATION

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

15 - REGULATORY INFORMATION

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

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