VitroSilK® articles

Voluntary safety data sheet, structured along the lines of Annex II to Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2020/878

No safety data sheet is required for VitroSilK® articles; Cleansulation®Technology provides it voluntarily. This interim version replaces the sheet dated 01.02.2026 and is based on the information of the fiber manufacturer and the specification of the products modified for Cleansulation®Technology. The absence of alkali and alkaline earth oxides (Na_2O, K_2O, CaO, MgO, BaO) in the VitroSilK® fiber is confirmed for every delivery by an exclusion certificate "basic oxides". The E-glass layer of the Protekto M and G composite felts is excluded from this.

Section 0 · Preliminary note

VitroSilK® products are articles within the meaning of Art. 3(3) of Regulation (EC) No 1907/2006 (REACH). Under Art. 31 REACH, a safety data sheet is required only for substances and mixtures. Cleansulation®Technology B.V. provides this sheet voluntarily to support safe handling.

Section 1 · Identification of the article and of the company

Trade name	VitroSilK®
Product forms	VitroSilK®Shield (fabric with stainless steel wire reinforcement) VitroSilK®Flex (needle mat) VitroSilK®Loft (loose wool) VitroSilK®Protekto M (single-faced composite felt) VitroSilK®Protekto G (double-faced composite felt) VitroSilK®Cover (made-to-measure insulation blanket) This sheet applies to all product forms listed.
Use	Industrial applications, thermal insulation
Supplier	Cleansulation®Technology B.V. Damsluisweg 52, 1332 ED Almere, The Netherlands Phone +31 36 532 0303 www.cleansulation.tech
Emergency telephone	+31 36 532 0303 (during office hours)

Section 2 · Hazards identification

Classification according to Regulation (EC) No 1272/2008 (CLP)	Not classified.
Basis	VitroSilK® fiber: amorphous continuous silicate glass fibers, nominal fiber diameter 6 to 9 µm. The material is neither fused quartz nor quartz and contains no crystalline SiO_2 as delivered. The filaments do not split lengthwise. Protekto M and G additionally contain a needle mat of standard E-glass (continuous glass fiber).

WHO fiber criteria	The nominal fiber diameter of 6 to 9 µm lies outside the WHO definition of respirable fibers (length over 5 µm, diameter under 3 µm, length-to-diameter ratio over 3; WHO, Determination of airborne fibre number concentrations, Geneva 1997). Since amorphous glass filaments break crosswise and do not split lengthwise, no fibers of this geometry are produced during processing either.
Label elements	No signal word, no hazard statements, no precautionary statements required.
Restrictions under Annex XVII REACH	Not applicable.
Other hazards	The material does not conduct electricity and may build up static charge.
RoHS	Contains no substances restricted under Directive 2011/65/EU.

Section 3 · Composition

VitroSilK® fiber (Shield, Flex, Loft and the VitroSilK® layers of the Protekto felts)

Component	Content	CLP classification
Amorphous continuous silicate glass fiber not fused quartz, not quartz	> 99.8 %	not classified
Sizing	< 0.2 %	not classified
Glass composition	SiO_2 95.0 ± 1.0 % Al_2O_3 3.5 ± 0.5 % remainder production residues	
Alkali and alkaline earth oxides	Na_2O, K_2O, CaO, MgO, BaO not contained; exclusion certificate “basic oxides” for every delivery	
CAS/EC number	Not required (article within the meaning of Art. 3(3) REACH)	

Stainless steel wire (VitroSilK® Shield only)

Component	Stainless steel wire, material no. 1.4845 (X8CrNi25-21), woven into every warp and weft thread
Form	Solid steel, firmly bound into the fabric

Fabrication materials (VitroSilK® Cover only)

Sewing thread	Twaron® (para-aramid), twisted with twelve stainless steel wire cores 1.4845 (X8CrNi25-21)
Fastening, option hot side	Stainless steel hooks and knitted wire mesh of 1.4571 (X6CrNiMoTi17-12-2), solid steel

E-glass layer (VitroSilK® Protekto M and G only)

Component	Needle mat of standard E-glass (continuous glass fiber), CLP: not classified
Composition	E-glass according to ASTM D578, contains alkaline earth oxides (CaO, MgO)
Construction	Protekto M: one VitroSilK® Flex layer (5 mm) needled on one side Protekto G: one VitroSilK® Flex layer (5 mm) needled on each side
Note	The E-glass layer must not come into contact with the hot part. With Protekto M, the VitroSilK® side must face the hot part.

Section 4 · First aid measures

Eye contact	Rinse under running water for at least 15 minutes; consult a doctor if necessary.
Inhalation	Move to fresh air. If breathing has stopped or is irregular, artificial respiration or oxygen by trained personnel.
Skin contact	Remove contaminated clothing and shoes. Wash skin with lukewarm soapy water without rubbing hard. If irritation persists, seek medical attention.
Ingestion	Rinse mouth with water (only if conscious). Keep the person warm and at rest, do not induce vomiting, get medical advice.
Protection of first aiders	No action involving personal risk or without suitable training.

Section 5 · Firefighting measures

Suitable extinguishing media	All common extinguishing media (water, carbon dioxide, foam, powder), chosen according to the source of fire.
Special hazards	The article is non-combustible. In a sustained fire the sizing may decompose, releasing small quantities of CO and NO_x in addition to water vapor and CO_2.
Advice	In major fires use self-contained breathing apparatus.

Section 6 · Accidental release measures

Personal precautions	Wear a respirator, protective gloves and safety goggles if necessary.
Environmental precautions	No special measures required.
Cleaning up	Pick up with low dust generation, without stirring up dust, and place in containers or bags. Disposal according to Section 13.

Section 7 · Handling and storage

Safe handling	Avoid prolonged skin contact. Wear gloves, long-sleeved clothing and long pants or protective coveralls, safety goggles and a dust mask.
Storage	Protect from excessive moisture so that product and packaging are not damaged. Observe the stacking instructions for each product form.
Incompatible materials	See Section 10.

Section 8 · Exposure controls and personal protection

Occupational exposure limits, United Kingdom and USA

Parameter	Value	Reference
Dust, inhalable fraction (8-hour TWA)	10 mg/m³	United Kingdom: COSHH, HSE EH40
Dust, respirable fraction (8-hour TWA)	4 mg/m³	United Kingdom: COSHH, HSE EH40
Particulates not otherwise regulated, total dust (8-hour TWA)	15 mg/m³	USA: OSHA, 29 CFR 1910.1000, Table Z-1
Particulates not otherwise regulated, respirable fraction (8-hour TWA)	5 mg/m³	USA: OSHA, 29 CFR 1910.1000, Table Z-1

In other countries the respective national limits apply.

Engineering controls	Provide local exhaust ventilation at workplaces where dust is generated by cutting, grinding or similar work. Where this is not possible, wear respiratory protection. Provide facilities for washing and changing clothes.
Respiratory protection	Particle-filtering respirator (approved, reusable or disposable)
Hand protection	Gloves that glass fibers cannot penetrate, e.g. leather
Eye protection	Goggles
Body protection	Loose-fitting upper garments with long sleeves and collar, cuffs at wrists and ankles

Section 9 · Physical and chemical properties

Physical state	Solid
Form	Fabric, needle mat, loose wool, composite felt or insulation blanket of continuous filaments
Fiber type	VitroSilK®: amorphous continuous silicate glass fiber, nominal fiber diameter 6 to 9 µm; Protekto M and G additionally E-glass layer
Structure	Amorphous; not fused quartz, not quartz, no crystalline SiO_2 as delivered
Color	White to yellowish white

Odor	Odorless
pH	Not applicable
Softening point	Littleton point (viscosity $10^{7.65}$ dPa·s) approx. 1250 °C, manufacturer's information
Melting point	Not applicable; glass does not melt, its viscosity decreases with rising temperature.
Bulk density	VitroSilK® Flex 130 kg/m³; other product forms see technical data sheet
Solubility	Very low in water. The sizing may dissolve partly or completely in organic solvents.
Decomposition temperature	Only the sizing decomposes, from approx. 200 °C.
Combustibility	Non-combustible, does not sustain combustion
Explosive and oxidizing properties	None

Section 10 · Stability and reactivity

Chemical stability	Stable.
Hazardous reactions	None under intended storage and use.
Incompatible materials	Hydrofluoric acid, phosphoric acid
Hazardous decomposition products	From the sizing in a sustained fire, small quantities of CO and NO_x; see Section 5.
Behavior under thermal load	As delivered, the glass is amorphous and contains no crystalline SiO_2. The temperature resistance of the fiber is approximately 1000 °C. For continuous service we recommend an application temperature of up to 750 °C. This is intended to prevent the formation of cristobalite, which has so far been neither demonstrated nor investigated for VitroSilK®, but which cannot be ruled out under prolonged exposure to higher temperatures. Used material should be handled with low dust generation, like any used high-temperature insulation.

Section 11 · Toxicological information

Acute toxicity, irritation, sensitization, mutagenicity, reproductive toxicity, STOT	No test data for the article.
Carcinogenicity	IARC has placed continuous glass filaments in Group 3 (Monograph Volume 81, 2002): not classifiable as to carcinogenicity in humans.

Handling of glass fibers

The nominal fiber diameter of 6 to 9 µm lies outside the WHO definition of respirable fibers (length over 5 µm, diameter under 3 µm, length-to-diameter ratio over 3; WHO, Determination of airborne fibre number concentrations, Geneva 1997). Since amorphous glass filaments break crosswise and do not split lengthwise, no fibers of this geometry are produced during processing either.

When cut, milled or ground, glass filaments break across the fiber axis; no filaments of smaller diameter are produced. Considerable amounts of dust may be generated, however, which is why personal protective equipment is recommended.

According to the fiber manufacturer, some studies have found very small quantities of fiber-shaped particles in dusts, especially from cut and milled products (length-to-diameter ratio over 3, longer than 5 µm, apparent diameter under 3 µm). The quantities measured in work areas were 50 to 100 times below the limits for respirable fibers. Where dust generation is high, wearing respiratory protection is strongly recommended.

Section 12 · Ecological information

Toxicity, degradability, bioaccumulation, mobility	No data available.
PBT/vPvB	Not classified as PBT.
Other adverse effects	None known.

Section 13 · Disposal considerations

Depending on local regulations, glass fiber waste is considered inert waste or ordinary industrial waste and may be landfilled at sites approved for it. Waste should be avoided wherever possible. Dispose of non-recyclable residues through a licensed waste disposal contractor.

Used material must be assessed according to its origin. Deposits from the installation, such as chromium(VI) compounds from previous insulation, determine the waste classification.

Clean packaging made of cardboard, wood and plastic can be recycled.

Section 14 · Transport information

Not dangerous goods under ADR/RID, ADN, IMDG and IATA. No UN number, no hazard class, no packing group, not a marine pollutant. Within the user's premises, transport in closed, upright and secured containers.

Section 15 · Regulatory information

CLP	Not classified, see Section 2.
REACH	Article within the meaning of Art. 3(3); no intended release of substances.
RoHS	Directive 2011/65/EU complied with.
United Kingdom	Workplace exposure limits under COSHH and HSE EH40, see Section 8.
USA	Permissible exposure limits under OSHA 29 CFR 1910.1000, see Section 8.

Section 16 · Other information

This sheet supplements the technical data sheets of Cleansulation®Technology B.V. and does not replace them. The information reflects the current state of knowledge. It does not release users from knowing and applying the rules

governing their activities; users are responsible for the protective measures when using the article. Attention is drawn to possible risks if the article is used for purposes other than those intended.

Revision history

Version	Date	Change
1.0	November 2026	Interim version, replaces the safety data sheet dated 01.02.2026. Structured along the lines of Regulation (EU) 2020/878, prepared voluntarily; fiber type (amorphous continuous fiber, not fused quartz and not quartz), nominal fiber diameter and absence of alkali and alkaline earth oxides added; table of exposure limits replaced by the values for the United Kingdom and the USA; quartz density removed; manufacturer's text in Section 11 restored; classification according to WHO fiber criteria added in Sections 2 and 11; incompatibility with hydrofluoric and phosphoric acid added; Section 10 extended by behavior under thermal load with recommended application temperature up to 750 °C, Section 13 by used material; CAS/EC number marked as not required (article); RoHS reference corrected; contact details cleaned up; Section 3 split into VitroSilK® fiber, stainless steel wire (Shield) and E-glass layer of the Protekto felts; VitroSilK®Shield designated as fabric with stainless steel wire reinforcement; VitroSilK®Cover added with its fabrication materials.