Manufacturers of the **STEVENS**TM Range of Products

Unit 4, Millbuck way, Springvale Industrial Estate, Sandbach, Cheshire, CW11 3HT Telephone: (01270) 766685 Fax: (01270) 766685

STEVENS GLASS FIBRE PRODUCTS SAFETY DATA SHEET

Section 1: Identification of the Substance:

Fibrous Glass, continuous filament

Chemical Formula: E-glass

<u>Product Types:</u>chopped strands, chopped strand mats, wet chopped strands, rovings, texturized rovings, woven rovings, milled fibres, textile yarns on bobbins and beams.

Section 2: Composition/Information on Ingredients

Ingredients: %-WeightControl limit:

<u>Fibrous Glass</u> (E-type, continuous filament)90,0(Min.)To be considered as a Composition consisting principally of (non-respirable)"nuisance" oxides silicon, aluminium, calcium, boron,dust. and magnesium, fused in an amorphous Control limits according vitreous state. to local regulations

<u>Surface Sizing</u> (complex mixture; in general,2,0(Max.)None established of silanes and polymers)

Glass fibre does *not* meet the classification for a "dangerous substance" according to 67/548/EEC and 97/69/EC.

Glass fibre carries no CA and no EPA code designation number. CAS number: see under 65997-17-3.

Glass fibre is considered to be an article as defined in section 710.2(F) of the U.S.TSCA and, as such, is exempt from section 5 and section 8 (B) reporting requirements.

Section 3: Hazards Identification

Emergency Overview: This product is stable and not flammable under normal industrial conditions. Exposure to continuous filament glass fibres sometimes causes irritation of the skin and, less frequently, irritation of the eyes, nose or throat. The primary route of entry into the body is inhalation. Fibres with diameters equal to or greater than 3.5 microns do not reach the lower respiratory tract (in other words: are not respirable) and thus have no possibility of causing serious pulmonary disease. These glass fibres, due to their favourable large diameters greater than 3.5 microns are NOT respirable, nor can they become respirable by any normal industrial processing.

Primary Route(s) of Entry: Inhalation

<u>Signs and Symptoms of Overexposure:</u> Rash, itching, conjunctivitis, coughing, sneezing. <u>Health Hazards(Acute):</u> Exposure to continuous filament glass fibres sometimes causes irritation of the skin and, less frequently irritation of the eyes, nose or throat.

(Chronic)/Carcinogenicity Status: See section 11.

Medical Conditions Aggravated by Exposure: None known

EC Labelling Classification: Not a dangerous substance or preparation

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Section 4: First-Aid Measures

Eye Contact: Flush eyes with clear water for at least 15 minutes - seek medical attention. Skin Contact: Rinse contact areas with room temperature to cool water, then wash gently with mild soap. If glass fibre becomes embedded, seek medical attention. Inhalation: If irritation persists, seek medical attention. Product is NOT respirable.

If swallowed: Seek medical attention.

Section 5: Fire-Fighting Measures

Flash Point: Non-burning

Flammable Limits: Not applicable Extinguishing Media: Not applicable

Special Fire Fighting Procedures: In a sustained fire, self-contained breathing apparatus (SCBA) should be worn.

Unusual Fire and Explosion Hazards: Not applicable

Special Exposure Hazards from Fire: Hazardous products of combustion of sizings and binders may be released in a sustained fire. The larger part of the glass fibre product is non-flammable E-glass.

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: No special precautions. Waste Disposal Method: Dispose of as solid waste in accordance with Government regulations. Product is to be considered as a non-respirable "nuisance dust" (see Section 13, Disposal Considerations). Use of suitable overalls will maximise comfort both at cleaning up and normal processing activities.

Section 7: Handling and Storage

7.1 Handling

Precautions to be Taken in Handling: Non relative to health and safety. This product is to be considered as a non-respirable "nuisance dust". Control limits according to local regulations.

7.2 Storage

Precautions to be Taken in Storage: For optimum performance, Fibre Glass products should be stored at a temperature less than 25° C and a relative humidity less than 65%. Glass fibre has electrically isolation properties and hence may give some static.

Section 8: Exposure Controls/Personal Protection

Respiratory Protection: None normally required. If airborne glass fibre concentrations exceed the control limit, respiratory protection for nuisance dusts should be provided. <u>Ventilation</u>: Use local exhaust ventilation if necessary to maintain airborne levels to below established limit.

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Skin Protection: Protective gloves may reduce skin irritation in some operations.

Eye Protection: Safety glasses with side shields should be worn.

Other Protective Equipment: Use of overalls, buttoned to fit loosely at the neck and wrists, long trousers, and good personal hygiene will maximise comfort. The use of barrier creams may provide additional skin comfort.

Measurement Procedures/References: The American Conference of Government Hygienists (ACGIH) has adopted a Threshold Limit Value (TLV®) for fibrous glass dust of 5mg/m³ (TWA, 8 hours), inhalable fraction. The Occupational Safety and Health Administration (OSHA) does not prescribe a Permissible Exposure Limit (PEL) for fibrous glass but relies on the PEL-TWA's for nuisance dust of 15 mg/m³ (total) and 5 mg/m³ (respirable). The TLV® 's have been adopted by many other countries. The TLV® pertains to airborne continuous glass fibre concentrations in mg of glass fibre/m³ of air. A clear distinction should be made between *non-respirable* fibres and airborne respirable fibres.

Section 9: Physical and Chemical Properties.

Appearance: Yellow to white fibres bound together in strands Odour: None

pH: Not applicable Boiling Point: Not applicable

Melting Point(softening): 800°C Freezing Point: Not applicable

Flash Point: Non-burning Flammability: Not applicable

Auto-ignition/explosion limits: Not applicable Oxidation Risk: Not applicable

Electrical conductivity: E-glass is an electrical insulator Autoflammability: Not applicable

Evaporation Rate: Not applicable Vapour Pressure: Not applicable

Specific Gravity (bare glass): 2.6-2.7 (Water = 1) Vapour Density: Not applicable

Percent volatile: Wet chopped strands: 15% (Max., Water); Mat: 6.5% (Max); all others 2% (Max)

Octanol/Water Partition Coefficient: Not applicable

Solubility: Insoluble in water. For some applications, e.g. paper reinforcement, Wet fibres are available that are made dispersible in water through their special sizing. Most Fibre Glass types will disperse to some extent in organic solvents like styrene, acetone, etc. depending on their specific application.

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: None known

Incompatibility (Materials to Avoid): None known

<u>Hazardous Decomposition Products:</u> In a sustained fire, sizings and binders may decompose

releasing hazardous products of combustion (see Section 5).

<u>Hazardous Polymerisation:</u> Will not occur.

Section 11: Toxicological Information

Factors in fibre toxicity include: Fibre dimensions and degree of exposure.

<u>Fibre Dimensions:</u> Fibres are either non-respirable or respirable. Respirable fibres can penetrate to the "deep" lung area. According to the World Health Organisation (WHO), manmade mineral fibres with diameters equal to or greater than 3.0 microns are non-respirable. According to the National Institute for Occupational Safety and Health (NIOSH), fibres with

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diameters less than or equal to 3.5 microns are non-respirable. The narrow, bending passages of the human respiratory system, do not permit the relatively larger, non-respirable fibres to enter the "deep" lung area. Instead, they strike the surfaces of the upper respiratory tract, nose or pharynx and stop. They may then be filtered by nasal hairs or other natural mechanisms. Due to the manufacturing process used, these Fibre Glass products have diameters greater than 3.5

microns and are considered to be non-respirable. The fibres do not become respirable upon the sanding/machine processing activities typical of our customers. Upon breakage, the fibres break horizontally into smaller lengths but not longitudinally into smaller diameters.

<u>Degree of Exposure:</u> According to Johnson et. al., in a 1969 US study of four fibrous glass production plants, "the results in terms of airborne concentration of glass fibres and total dust would indicate that the workmen's exposure to these materials is negligible".

Carcinogenicity: The International Agency for Research on Cancer (IARC) is part of the World Health Organisation (WHO). IARC concludes that continuous fibre glass filaments are not classifiable as to their carcinogenicity in humans (Group 3) because there is inadequate evidence on the carcinogenicity of these materials in humans or experimental animals. In a 1987 US epidemiological study (20 years latency) of glass filament workers, there was no excess of respiratory cancer found. In a 1987 European study (over 20 years latency) there was no excess of lung cancer found. In both studies there was no increasing trend with an estimated time-weighted measure of exposure. In a study administering large diameter glass filament (>3 microns) intraperitoneally to rats, no statistically significant tumour response was found. The American Conference of Governmental Industrial Hygienists (ACGIH) gives continuous filament fibre glass an A4 designation meaning there is inadequate data to classify it as a carcinogen. Continuous filament fibre glass is not listed in the National Toxicology Program (NTP) 7th Annual Report on Carcinogens, nor is it regulated by OSHA as a carcinogen.

Section 12: Ecological Information

Because glass fibre is generally considered to be an inert solid waste, no special precautions should be taken in case it is released or spilled. None of our glass fibre products contain or are manufactured with Class 1 or Class 11 Ozone-Depleting Chemicals (CFCs)

Section 13: Disposal Considerations

Glass fibre is generally considered to be an inert solid waste not requiring hazardous waste disposal procedures. Local or national regulations should be consulted to ensure proper disposal procedures for your location. Glass fibre products which have become part of a reinforced plastic or uncured resin system must be disposed of in accordance with applicable requirements for those plastics or resins where they exist.

Section 14: Transport Information

No special precautions or restrictions involving transport or conveyance of glass fibre are known to us.

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Section 15: Regulatory Information

Glass fibres are considered in Europe under the EC regulations as being additives when used as reinforcements for plastics that are intended to come into direct or indirect contact with food and as such have been listed in Annex 111 of Directive 96/11/EC (amendment to Directive 90/128/EEC) under PM/ Reference No 55520 with no restrictions mentioned in the pertaining table.

Health and Safety Text on the product packaging label:

NOTICE: contact with fibrous glass may cause temporary irritation. Wear long-sleeved, loose-fitting clothing when handling the material. Gloves and eye protection may be appropriate in certain operations. Wash with soap and warm water after handling. Use of a disposable mask in accordance with occupational safety and health administration 1910.134 respiratory protection requirements designed for nuisance dusts is advisable where high dust levels may be encountered. The International Agency for Research on Cancer (IARC) has designated continuous filament fibre glass as a group 3, "not classifiable as to human carcinogenicity". This means that evidence is not sufficient to link that fibre to cancer.