



Product Number: 38 Intumescent Material ES/MP

Description:

ES/MP is a double coated fireproof cloth for adhering between panels in the manufacture of new fire doors.

This product comprises of the following materials and therefore is supported by Health & Safety Data Sheets:

- (Appendix 3) Glass Cloth
- (Appendix 15) LVFR
- (Appendix 35) Graphite Mix

*The information contained in this safety data sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information. The information given in this data sheet does not constitute or replace the user's own assessment of workplace risk as required by other health and safety legislation.

HEALTH & SAFETY INFORMATION SHEET
APPENDIX 3
WOVEN GLASS FABRIC

Issue 2. 17/3/2015

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME: Woven Glass Fabric
MANUFACTURER/SUPPLIER: Envirograf
ADDRESS: Envirograf House, Barrestone, Dover, Kent, CT15 7JG
TELEPHONE/FAX/EMAIL: 01304 842555 01304 842666 sales@envirograf.com
EMERGENCY PHONE NUMBER: 01304 842555 (8.30 – 5.30 Monday to Friday)

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterisation: Fibrous glass (E-type, continuous filament) compositions consisting principally of oxides of silicon, aluminium, calcium, boron and magnesium, fused in an amorphous vitreous state

Glass fibre does not meet the classification for a 'dangerous substance' according to 67/548/EEC. Glass Fibre carries no CAS registry number and no EPA code designation number. Glass as a generic substance, the E-glass composition included, has been incorporated in the EINECS under no. 65997-17-3.

3. HAZARD IDENTIFICATION

There are no major health hazards associated with the fabric; however exposure to glass fibres sometimes causes irritation of the skin and less frequently irritation of the eyes, nose or throat.

4. FIRST AID MEASURES

Inhalation: In case of inhalation of glass dust particles or fumes from thermal degradation move into fresh air, if irritation persists seek medical attention

Skin Contact: If irritation is a problem then rinse the affected areas with cool water, then wash gently with mild soap. If glass fibre becomes embedded in the skin then seek medical attention

Eye Contact: Flush eyes with clear water for at least 15 minutes, if irritation persists seek medical attention

5. FIRE-FIGHTING MEASURES

Glass fibre is inherently non-flammable

Suitable extinguishing media: Water, carbon dioxide, dry powder

Protective equipment for Fire fighters: In a sustained fire, self-contained breathing apparatus and protective clothing should be utilised

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: None

Environmental precautions: None

Method for cleaning up: Dust pan and wet brush

7. HANDLING AND STORAGE

Precautions for handling: No special measures, for personal protection see section 8. Glass fibre has electrical isolation properties and so may give some static

Precautions for storage: Store below 25°C in a dry, well ventilated place

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory protection: None required, if airborne glass fibre concentrations exceed the control limit, respiratory protection for nuisance dust should be provided.

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

Hand/Skin protection: Protective gloves, overalls buttoned to fit loosely at the neck and wrists and long trousers may reduce irritation in some operations. Barrier cream may provide further protection from irritation.

Hygiene measures: Wash hands before breaks and at the end of the day. Launder items of clothing contaminated with glass fibre dust separately.

Control limits: Airborne glass dust – TLV = 5mg/m³

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White woven fibres

Colour: White

Odour: None

pH Value: Not applicable

Melting point (softening): 830° C

Flash point: Not applicable

Auto ignition temperature: Not applicable

Explosive properties: Not applicable

Specific gravity: 2.6g/cm³

Solubility: Insoluble in water. Glass fibre will disperse, to some extent in organic solvents like styrene, acetone etc.

10. STABILITY AND REACTIVITY

Conditions to avoid: Stable under recommended storage and handling conditions (see section 7)

Material to avoid: -

Hazardous decomposition Products: Carbon dioxide, carbon monoxide, silicone dioxide

11. TOXICOLOGICAL INFORMATION

Inhalation: The products of thermal decomposition, including carbon dioxide and carbon monoxide may cause dizziness and headache after prolonged low level exposure.

Pre-existing upper respiratory and lung disease may be aggravated.

Skin contact: No toxicological effect.

Eye contact: No toxicological effect.

This product is not manufactured using glass fibre with diameters that are classified as respirable (fibres with diameters less than 3.0 microns which are capable of travelling into the body to the trachea, bronchi etc.)

All of the fibres in this product have fibre diameters equal to or greater than 4.5 microns, and are therefore not physically capable of travelling beyond the nose and pharynx.

12. ECOLOGICAL INFORMATION

Glass fabrics are not readily biodegradable. No known harmful effects on the environment

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products: Dispose as solid, non-recyclable waste according to local regulations.
Contaminated packaging: Empty containers should be transported/delivered using a registered waste carrier for local recycling where possible or waste disposal.

14. TRANSPORT INFORMATION

No special precautions or restriction involving transport are known.

15. REGULATORY INFORMATION

Symbols:	None
Risk phrases:	None
Safety phrases:	None

16. OTHER INFORMATION

The information contained in the Health and Safety Data Sheet is provided in accordance with the requirements of the CHIP Regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. This information contained in the safety data sheet is based on present knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

HEALTH & SAFETY INFORMATION SHEET
APPENDIX 15
LVFR

29th April 2015. ISSUE 2

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME: LVFR
MANUFACTURER/SUPPLIER: Envirograf
ADDRESS: Envirograf House, Barrestone, Dover, Kent, CT15 7JG
TELEPHONE / FAX / EMAIL: 01304 842555 01304 842666 sales@envirograf.com
EMERGENCY PHONE NUMBER: 01304 842555 (Monday to Friday 8.30 – 5.30)

2. HAZARDS IDENTIFICATION

Health effects:
Skin May cause slight irritation on prolonged / repeated contact.
Eyes May cause some irritation.
Inhalation No hazard under normal conditions of use.
Ingestion Low toxicity.
Physical/chemical effects Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization Aqueous polymer coating for exterior surfaces.

Chemical Name	CAS No.	EC No.	%	Classification
C14-C17 chloroalkanes	85535-85-9	287-477-0	<7%	N Dangerous for the environment R50/53 Very toxic to aquatic organisms R64-66 May cause harm to breast fed babies

4. FIRST AID MEASURES

Skin contact Remove contaminated clothing and wash contaminated skin with soap and water.
Eye contact Wash immediately with water for 15 minutes. If irritation persists seek medical advice.
Inhalation Remove the casualty to fresh air.
Ingestion Rinse out mouth with water and if conscious drink plenty of water. Seek medical attention.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Foam, carbon dioxide, powder, and water spray.
Extinguishing media which must not be used for safety reasons: None known
Special exposure hazards: None known.
Special protective equipment for fire-fighters: Chemical protection suit / gloves / boots and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Use personal protection equipment.
Environmental precautions:	Do not dispose of into surface water or sanitary sewer system.
Methods for cleaning up:	Scrape up excess and dispose of at an approved site.

7. HANDLING AND STORAGE

Handling precautions:	Not applicable.
Storage conditions:	Store in original closed containers between + 5°C and + 30°C in dry conditions. Avoid extremes of temperature.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:	Refer to current edition of HSE Guidance Note EH40 Occupational Exposure Limits (UK)	
Engineering measures:	Not applicable.	
Personal protection equipment:		
Respiratory protection:	Mask where appropriate.	
Hand protection:	Gloves.	
Eye protection:	Goggles.	
Skin and body protection:	Wearing of closed work clothing is recommended.	

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour:	White, Red, Black or Yellow.	Explosive properties	Not applicable.
Form	Shear thinning paste.	Oxidizing properties	Not applicable.
Odour	Low odour.	Vapour pressure	Not applicable.
pH as supplied	Approximately 6.5–8.0	Specific Gravity	1.26 to 1.30
Boiling point/range	Not determined.	Solubility:	
Melting point/range	Not applicable.	Water solubility	Miscible.
Flash point	Not applicable.	Partition coefficient	Not applicable.
Flammability (solid, gas)	Not self-igniting.	(n-octanol/water)	
Auto ignition temperature	Not applicable.		

Other data

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.
Conditions to avoid: Avoid extremes of temperature especially frost and freezing conditions.
Materials to avoid: None, under normal conditions of use.
Hazardous decomposition products: No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Not applicable

12. ECOLOGICAL INFORMATION

Not applicable

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations at approved sites.

14. TRANSPORT INFORMATION

UK road/rail	Not applicable. None hazardous.
IMDG	Not applicable. None hazardous.
ICAO	Not applicable. None hazardous.
ADR	Not applicable. None hazardous.

15. REGULATORY INFORMATION

Supply classification:	
Hazard symbol(s)	N Dangerous for the environment
Risk phrases	R50/53 Very toxic to aquatic organisms R64-66 May cause harm to breast fed babies.
Safety phrases	S25 Avoid contact with eyes. S26 In case of contact with eyes, rinse immediately with plenty of water, seek medical advice S39 Wear eye / face protection. S57 Use appropriate container to avoid environmental contamination.

16. OTHER INFORMATION

Recommended use	Coating with fire retardant / intumescent properties.
Further information	Consult technical data sheet.
R-Phrase from section 2	R50/53 – Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment
History	
Date of printing	14 May 2015
Date of issue	April 2015
Version	2
Prepared by	Intumescent Systems Limited

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Appendix 35 GRAPHITE MIX

SECTION 1 - IDENTIFICATION OF THE PREPARATION(S) AND THE COMPANY

Product names / codes: Graphite Mix

Intended Use: Professional use only, for incorporation into intumescent paints and coatings

Company: Intumescent Systems Ltd
Envirograf House,
Barfrestone,
Dover, Kent
CT15 7JG

Tel: +44 (0) 1304 842555

Fax: +44 (0) 1304 842666

SECTION 2 - HAZARDS IDENTIFICATION

- If the graphite mix is allowed to dry out there is the potential for the release of the associated dust and fibre content; these are mechanical irritants to the skin and eyes and irritant to the upper respiratory system if inhaled.
- The fibres will include man made vitreous silicate (mineral wool) fibres, Superwool® fibres, glass-fibres and cellulose fibres; the dusts will include graphite, china clay, starch and Aluminium tri-hydroxide.
- As with any airborne dust or fibres pre-existing upper respiratory and lung diseases may be aggravated.
- High concentrations of airborne graphite or starch dust may represent an explosion risk.
- Airborne graphite dust may result in shorts and malfunction of electrical equipment
- Spilt graphite may result in underfoot slip hazards for personnel and potential grip problems for fork lift trucks and other vehicles.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Constitution:

	% by weight	CAS / EINECs Nos.
Exfoliating Graphite	70 – 99	7782-42-5 / 231-955-3
Man Made Vitreous (Silicate) Fibres - Note Q	0 - 5.0	287922-11-6
Superwool®	0 - 5.0	436083-99-7 / 266-046-0
Chopped Strand Borosilicate Glass Fibre	0 - 5.0	65997-17-3
Woodpulp	0 - 5.0	65996-61-4 / 265-995-8
China Clay	0 - 5.0	332-58-7 / 310-127-6
Starch	0 - 5.0	9005-25-8 / 232-679-6
Aluminium tri-hydroxide	0 - 5.0	21645-51-2 / 2444927
Polymeric binder	0 - 5.0	N/A
Water	0 - 30	7732-18-5 / 231-791-2

SECTION 4 - FIRST AID MEASURES

Skin: Rinse affected areas with water and wash gently with soap. Do not use detergent.

Eyes: Flush eyes with large quantities of water.
Have eye bath readily available in areas where eye contact may occur.
Seek medical attention if irritation continues.

Ingestion: Drink plenty of water. Seek medical advice

Inhalation: Remove to fresh air, clear throat and blow nose to evacuate dust and fibre, drink water. Seek medical attention if symptoms persist.

SECTION 5 - FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing agent suitable for type of surrounding combustible materials. Do not inhale the products of combustion.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Do not allow dust or fibres to be wind blown.

Unwanted product should be collected and stored in sealed bags.

Do not use compressed air to remove dust or fibres from clothing or equipment

Dust and fibre deposits should be collected using a suitable vacuum cleaner with HEPA exhaust air filtration. The collected deposits and used vacuum bags should be sealed into poly-bags before disposal.

If sweeping is required the area should be thoroughly damped down with water before sweeping commences to prevent dust or fibres becoming airborne during sweeping.

SECTION 7 - HANDLING AND STORAGE

Handling: Keep dust generation to a minimum.
Storage: Keep cool and do not let the graphite mix dry out
Keep containers sealed until required for use.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Applicable Workplace Exposure Limits from UK HSE EH40 / 2005 and supplement Oct 2007 :

Machine made mineral fibre: 2.0 fibres/ml & 5 mg/m³ (8 hr TWA)

Fine Carbon Dust: 3.5 mg/m³ (8 hr TWA) and 7.0 mg/m³ (15 minute reference period)

China Clay (kaolin) respirable dust: 2.0 mg/m³ (8 hr TWA)

Starch

Total Inhalable dust: 10.0 mg/m³ (8 hr TWA)

Respirable dust : 4.0 mg/m³ (8 hr TWA)

Aluminium Tri-hydroxide -

Inhalable dust: 10.0 mg/m³ (8 hr TWA)

Respirable dust : 4.0 mg/m³ (8 hr TWA)

Respiratory Protection: Should not be required if the graphite mix is kept damp during processing
If the product is to be dry processed use local exhaust ventilation (extraction) where available. If workplace exposures exceed the workplace exposure limit for any of the components listed above then wear a disposable dust mask to EN149:2001 - FFP2 minimum

Hand Protection: The use of disposable Nitrile rubber gloves is recommended.

Eye Protection: Wear goggles or safety glasses with side shields. Do not wear contact lenses.

Skin Protection: Wear overalls that are loose fitting at the neck and wrists.
Wash overalls separate from other clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Black flakes
Density: 450-550 kg/m³
Expansion: When dry rapid volumetric expansion will occur if the material is heated above 200 °C.
Flammability: Non-flammable. Ignites in oxygen @ 690°C

SECTION 10 - STABILITY AND REACTIVITY

Stability/Conditions to avoid: Stable
Materials to avoid: None
Hazardous decomposition products: May include acidic and toxic gases and airborne fibres.
Hazardous Polymerisation: Will not occur

SECTION 11 - TOXICOLOGICAL INFORMATION

Graphite:

Powdered graphite is non-toxic.

High levels of airborne graphite dust may be a mechanical eye irritant.

Skin contact with graphite dusts may cause temporary irritation due to mechanical effects; repeated prolonged exposures may lead to dermatitis.

Airborne graphite dust is an upper respiratory irritant; exposures may aggravate pre-existing upper respiratory and lung diseases.

Cases of pneumoconiosis, pulmonary fibrosis and emphysema have been reported in workers following prolonged exposures to high levels of airborne graphite dust.

Man Made Vitreous (Silicate) Fibres - Note Q (Rockwool fibre):

Coarse Fibres:

In common with other man-made mineral fibres the vitreous silicate fibres in this product are mechanical irritants which may result in temporary irritation of the throat, eyes or skin.

Respirable Fibres:

Animal Studies:

Short term inhalation studies of rats exposed to high levels of stone wool fibres have shown that the long fibres are biodegradable and quickly disappear from the lungs.

Human Epidemiological studies:

Large morbidity and mortality studies of both European and North American mineral wool manufacturing workers have been conducted with traditional mineral wools. The studies found no significant evidence of non-malignant lung disease (e.g. fibrosis). The studies did not establish a causal relationship between exposure to traditional mineral wools and malignant diseases (lung cancer or mesothelioma).

The particular mineral wool fibre used in the products covered by this MSDS is based on a new formulation with increased bio-solubility giving even more rapid clearance of fibres from the lungs compared with traditional mineral wools.

Superwool®:

Irritant properties:

When tested using approved methods (Directive 67/548/EC, Annex 5, Method B4) this material gives negative results. All man made mineral fibres can produce mild skin itching or reddening, unlike other irritant reactions this is not the result of allergy or chemical skin damage but is caused by mechanical effects.

Human data on Respiratory Effects:

Epidemiological studies were conducted among miners exposed to Wollastonite a natural calcium silicate. No respiratory disease was observed.

Inhalation data for animals for Calcium Magnesium and Zirconia silicate wool:

This is a glass wool with high temperature resistance but low bio-persistence.

Several samples of vitreous fibres have been examined by long term inhalation testing of rats exposed to airborne fibre concentrations several orders of magnitude higher than are likely to occur in the workplace. No carcinogenic response was found for fibres in this range of low bio-persistence.

In a 90 day inhalation test at high concentration this fibre did not produce any significant cell proliferation. A nonspecific inflammatory response was noticed at the end of the exposure period but rapidly declined thereafter. The biological effect declined more rapidly than the concentration of fibres in the lung.

Chopped strand glass fibre:

There are no known chronic health effects connected with long term use or contact with continuous filament glass fibre. The glass fibres in this product are mechanical irritants which may result in temporary irritation of the throat , eyes or skin. The evidence from human and animal studies was evaluated by the International Agency for Research on Cancer (IARC) as insufficient to classify continuous filament glass fibre as a possible, probable or confirmed cancer causing material.

In 1987 (IARC) classified continuous filament glass fibre as “not classifiable with respect to human carcinogenicity (Group 3)”

Woodpulp (cellulose):

There are no known chronic health effects connected with long term use or contact with woodpulp. Airborne fibres may be upper respiratory irritants, mechanical eye irritants or temporary skin irritants for sensitive individuals.

China Clay (Kaolin) (hydrous kaolin clay):

High levels of airborne kaolin dust may be a mechanical eye irritant.

Skin contact with kaolin dust may cause temporary irritation due to mechanical effects; repeated prolonged exposures may result in drying of the skin leading to dermatitis. Airborne kaolin dust is an upper respiratory irritant; exposures may aggravate pre-existing upper respiratory and lung diseases.

Prolonged and repeated inhalation of respirable dusts (including kaolin dust) in excess of the appropriate exposure limits has caused pneumoconiosis, a lung disease.

Not all individuals with pneumoconiosis will exhibit symptoms (signs) of the disease. However, pneumoconiosis can be progressive and symptoms can appear at any time, even years after the exposure has ceased. Kaolin is not listed as a carcinogen by the International Agency for Research on Cancer (IARC).

Starch:

Starch is widely used in foodstuffs and domestic products and is essentially non-toxic

Airborne starch dust may be an upper respiratory system irritant ; high concentrations may represent

Aluminium Tri-hydroxide:

ATH powder is insoluble is essentially non-toxic.

High levels of airborne ATH dust may be a mechanical eye irritant.

Skin contact with ATH dust may cause temporary irritation due to mechanical effects.

Airborne ATH dust is an upper respiratory irritant; exposures may aggravate pre-existing upper respiratory and lung diseases.

If ingested Aluminium can accumulate in the human body; repeated or extreme high level exposures to aluminium compounds may result in long term systemic effects.

Keeping the graphite mix moist during processing is unlikely to result in high level exposures to ATH dust or long term effects related to the aluminium content.

SECTION 12 - ECOLOGICAL INFORMATION

The graphite mix will remain stable over time with the inorganic components remaining inert

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste should be disposed of at a licensed industrial waste site; local regulations should be considered.

Waste should be bagged or suitably contained to prevent dust and fibres being wind blown during disposal.

In the UK the waste is not classified as Hazardous.

SECTION 14 - TRANSPORT INFORMATION

Not regulated for Transport.

Ensure that dust or fibres are not wind blown during transportation.

SECTION 15 - REGULATORY INFORMATION

Fibre Type Definitions and Classification according to Directive 97 / 69 / CE:

Man Made Vitreous (Silicate) Fibres - Note Q (Rockwool fibre):

The mineral wool fibres contained in these products are defined as " man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkaline earth oxides ($\text{Na}_2\text{O} + \text{K}_2\text{O} + \text{MgO} + \text{BaO}$) content greater than 18% by weight"

The particular mineral wool fibres contained in these products have increased bio-solubility and are thus exonerated from classification as a carcinogen in accordance with Note Q of Directive 97 / 69 / CE; they also fulfil the requirements of Appendix V, No.7.1 (1) of the Dangerous Substance Ordinance of Germany.

Irritant Xi - R38 Irritating to the Skin.
S36 / 37 Wear suitable protective clothing and gloves.

Superwool®:

The Superwool® fibres contained in this product are defined as "man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkaline earth oxides ($\text{Na}_2\text{O} + \text{K}_2\text{O} + \text{CaO} + \text{MgO} + \text{BaO}$) content greater than 18 % by weight"

Superwool® fibre is not classified as a carcinogen under directive 97/69/CE.

Under Directive 67/548/EEC all types of man-made vitreous (silicate) fibres including Superwool® are classified as "irritant" (due to their mechanical effects) despite the fact that testing by the appropriate EU method (B4 in annexe 5 of Directive 67/548/EEC) does not give a response.

Chopped Strand glass fibre:

The chopped strand continuous filament glass fibres contained in this product do not fall within the scope of Directive 97/69/CE as they are not "fibres with random orientation"

Chopped strand continuous filament glass fibres are not classified as carcinogenic according to Directive 97/69/CE.

SECTION 16 - OTHER INFORMATION

Notes: New SDS 5 March 2009 for Graphite mix

Further information regarding working with man made mineral fibres and measurement techniques may be obtained by referring to Guidance Note EH46 1990 and MDHS59 1988 published by the UK, Health & Safety Executive.

This information only concerns the above named product(s) and may not be valid if used with other product(s) or in any process. This information is, to our best knowledge, correct and complete, but no guarantee can be given. It remains the responsibility of the user to make sure that the information is appropriate and complete for their particular use of the product. If you have purchased this product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information on this sheet. If you are an employer, it is your duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions which should be taken.