

SECTION 1 IDENTIFICATION

1.1 Product Identifier

Product name: Fluorofab® 100-3S, 100-3S NL, 100-3S PR, 100-3S PR NL

100-5 S, 100-5S NL, 100-5S PR, 100-5S PR NL

100-6S, 100-6S NL, 100-6S PR, 100-6S PR NL, 100-6S ME,

100-8 S SW

100-10 S, 100-10S NL, 100-10S PR, 100-10S ME

100-14 S, 100-14S PR

Synonyms: PTFE Coated Woven Glass with Silicone Adhesive

1.2 Relevant identified use of the product

Use of the Product: Industrial applications where high chemical and temperature resistance and

excellent release is required.

1.3 Details of the supplier of the safety data sheet

Company: Green Belting Industries Limited

381 Ambassador Drive

Mississauga ON L5T 2J3 Canada

Telephone: +1 905 564 6712 (09:00 to 17:00 Eastern Standard Time)

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European Union Biscor Limited

Contact: 8 Kingsmark Freeway

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1.4 Emergency Telephone Number

North American +1 905 564 6712 Available between the hours 09:00 to 17:00 (EST)

Emergency Telephone

Number:

European Union +44 (0)1274 699425 Available between the hours 09:00 to 17:00

Emergency Telephone (UTC/GMT)

Number:

SECTION 2 HAZARD IDENTIFICATION

2.1 Classification of the Product

European Not a classified substance or mixture according to Regulation (EC) No. 1272/2008.

Communities (EC): Not classified as dangerous according to Directive 67/548/EEC.

USA: Not a hazardous material as defined by 29 CFR1910.1200, OSHA Hazard

Communication Standard.

Canada: Not a controlled product under WHMIS.

2.2. Label elements

Symbol: None
Signal Word: N/A
Hazard Statement(s): N/A

Precautionary Statement: P261 – Avoid breathing any fume or dust that may be generated

P264 – Wash hands thoroughly after handling.

2.3. Other hazards

Use of this product is not normally considered hazardous, however material dust caused by cutting, sawing or sanding may cause eye or skin irritation. Processing at temperatures higher than 300°C can cause the evolution of particulate matter which can cause "polymer fume fever" which is a temporary condition that can cause flu-like symptoms and eye and respiratory irritation. The smoking of tobacco contaminated with PTFE can cause this condition. Processing at temperatures higher than 400°C will result in thermal decomposition of fluorinated thermoplastics and may release carbonyl fluoride which hydrolyses to hydrogen fluoride and carbon dioxide by reacting with moisture in the air, and silicon dioxide may also be released. In all cases avoid exposure, move the individual to fresh air and consult a physician if severe.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Nature of the Mixture: PTFE coated woven glass fabric with silicone adhesive

3.1 Substances

Not Applicable

3.2 Mixtures

Ingredient Name	CAS Number	% by Weight	Exposure Limits	Symbol	Risk Phrases
Poly-tetrafluoroethylene	9002-84-0	25 - 57	N/A	None	None
Glass Fibre (fiberglass cloth)	65997-17-3	33 - 49	OSHA PEL - 5 mg/m ³ ACGIH TLV - 5mg/m ³	None	None
Polysiloxane Adhesive	556-67-2	7 - 19	N/A	None	None
Polyvinyl Chloride (inter-liner)	9002-86-2	7 - 19	N/A	None	None

The above product(s) are defined under the European Union's REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) regulation as articles, and as such are exempt from the material safety data sheet provisions of 29 CFR 1910.1200(G).

None of the product components are intentionally released during their use when used as intended and in accordance with recommended specifications and parameters.

This product is REACH compliant and does not contain REACH SVHCs (Substances of Very High Concern) materials and is considered non-hazardous when used as intended and in accordance with recommended specifications and parameters.

For full text of the R-phrases mentioned in this Section, see Section 16.

For full text of the H-statements mentioned in this Section, see Section 16.

SECTION 4 FIRST AID MEASURES



4.1 Description of First Aid Measures

General Advice: Never give anything by mouth to an unconscious person. When symptoms persist or in

all cases of doubt seek medical advice.

Inhalation: N/A for material as supplied at room temperature and used as intended and in

accordance with recommended specifications and parameters.

Product - processing at high temperature may generate fumes which can cause "polymer fume fever" leading to flu-like symptoms. Remove to fresh air and consult a

physician if severe.

Inter-liner – if PVC decomposes due to overheating or contact with fire, remove affected persons to fresh air. In case of irritation of respiratory system or if feeling unwell after

prolonged exposure, seek medical attention.

Skin Contact: Not normally considered hazardous, for material as supplied at room temperature and

used as intended and in accordance with recommended specifications and parameters. Product - skin contact with the adhesive or material dust caused by cutting, sawing or sanding may cause skin irritation. Wash with plenty of soap and water. If irritation

persists get medical attention.

Inter-liner – If contact with hot (melt) product occurs, wash with plenty of water and

treat as for thermal burn.

Eye Contact: Product - material dust caused by cutting, sawing or sanding may cause eye irritation.

Wash with plenty of soap and water. If irritation persists get medical attention.

Inter-liner – After contact with hot (melt) product, immediately flush eyes with water for

several minutes at least and get medical attention.

Ingestion: If swallowed get medical advice. Do not induce vomiting unless instructed to do so by

medical personnel.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: Local irritation.

The thermal decomposition vapours of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco. Symptoms may be delayed. Repeated episodes of polymer fume fever may result in persistent lung effects. Inhalation of decomposition products from overheating

may cause lung irritation or shortness of breath.

For inter-liner, after inhalation of decomposed products, symptomatic treatment (decontamination, vital functions), if necessary take action against irritation of the

mucous membranes by HCl.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

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SAFETY DATA SHEET Fluorofab® PTFE COATED GLASS FABRIC WITH SILICONE ADHESIVE

SECTION 5 FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media: Water spray, Carbon dioxide (CO2), Foam, Dry Chemical

5.2 Special hazards arising from the product

Specific hazards during fire-

Hazardous thermal decomposition products.

fighting:

For adhesive coated PTFE glass - hydrogen fluoride, fluorinated compounds,

carbon oxides, perfluoroisobutylene, tetrafluoroethylene, hexafluoropropylene and trifluoromethane, silicon dioxide.

For PVC inter-liner – hydrogen chloride which upon contact with water forms

hydrochloric acid.

Exposure to decomposition products can be a hazard to health.

SECTION 5 FIRE FIGHTING MEASURES

5.3 Advice for firefighters

for firefighters:

Special protective equipment

Wear self-contained breathing apparatus and protective suit. Wear neoprene

gloves during cleaning up work after a fire.

Further information: Protect from hydrogen fluoride fumes which react with water to form

hydrofluoric acid and for inter-liner hydrogen chloride fumes which react with

water to form hydrochloric acid.

Inter-liner will not burn without a flame (self-extinguishing).

Observe local regulations when contaminated water and burning waste are

removed.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

Personal precautions: For solid product none required.

For dusts and fibres generated during fabrication use protective equipment to

prevent the contamination of skin, eyes, and clothing.

6.2 Environmental Precautions

Environmental N/A - solid product

Precautions

6.3 Methods and materials for containment and cleaning up

For solid product collect with hands broom and shovel and place in non-hazardous waste collection container for disposal.

For dusts and fibres generated during fabrication vacuum up and containerise.

6.4 Reference to other sections

For disposal instructions see section 13.



SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling: Solid product which presents minimal hazards to personnel when handling in

accordance with operating and storage recommendations.

The primary health hazards associated with this product are the generation of dust during fabrication and the inhalation of thermal decomposition products when the

product is subjected to temperatures greater than $300\,^{\circ}\text{C}.$

Provide appropriate exhaust ventilation at places where dust or volatiles can be

generated.

Wash hands thoroughly before smoking as tobacco contaminated with PTFE can

cause "polymer fume fever".

For inter-liner avoid overheating the material, as it decomposes to gaseous components (see section 5). Thermal degradation does not occur at low

temperatures, but becomes faster at higher temperatures.

Advice on protection against fire and explosion:

Dispose of in accordance with local regulations as a solid non-hazardous waste and

avoid inappropriate disposal practices.

Do not incinerate poly-tetrafluoroethylene (PTFE) or polyvinyl chloride (PVC)

waste.

Provide appropriate exhaust ventilation at places where dust or volatiles can be

generated.

For inter-liner take precautionary measures against static discharge (i.e. using proper grounding techniques) when handling rolls or sheets in dry rooms

(especially to avoid harm to people). PVC is not dust explosive in its delivered state.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and

Advice on common

No special precautions necessary, but recommend storing in a dry cool place and

protecting from contamination.

containers:

storage:

No special restrictions on storage with other products. Keep away from tobacco

products.

Storage temperature:

Avoid excessive temperatures.

Other data:

Do not store in direct sunlight or in conditions of high humidity.



		TLV	TLV	IDLH
		TWA	STEL	(NIOSH)
n situations in confined spaces where	perfluoroisobutylene	10ppb	-	-
the temperature of the fabric polymer exceeds 500°F (260° C), thermal	carbonyl fluoride	2ppm TWA	5ppm	-
degradation products may be produced. Exposure limits for these products, which nclude perfluoroisobutylene, carbonyl fluoride and hydrogen fluoride, must not be exceeded.	hydrogen fluoride	0.5ppm	2ppm ceiling	30ppm
n situations in confined spaces where he temperature of the inter-liner exceeds 248°F (120° C), thermal legradation products may be produced. Exposure limits for these products, which include hydrogen chloride, must not be exceeded.	hydrogen chloride	2ppm ceiling	5ppm ceiling	50ppm

01-04, EINECS-No. 2008310.

MAK-Value:2ppm (5mg/m³) Germany as TRK-value according to TRGS 102).

For supplied inter-liner, a VCM value of \leq 0.5ppm is guaranteed.

Given the special precautions mentioned in section 7, these traces present no toxic risk to the processing

Gloves should be worn when handling hot material. Safety glasses are normally recommended for all industrial workplaces when handling hot material.

	<u>OSHA-PEL</u>	ACGIH-ILV	<u>Otner</u>
In situations where high levels of	5mg/m³ –	5mg/m³	3×10^6
airborne dust/glassfibers are present	nuisance	- 8 hour	fibers/m³
specified exposure limits must not be	dust PEL	TWA	- 10 hour
exceeded.	(respirable	(inhalable)	TWA
	dust	1 fiber/cm³	(NIOSH)
	fraction)	- 8 hour	
	$15 \text{mg/m}^3 - 8$	TWA	
	hour TWA	(respirable)	
	(total dust		
	fraction)		

8.2	Exposure	Controls	

Engineering measures: If cutting, sawing or sanding of the product is necessary, to maintain exposures

> below recommended limits, a properly designed dust collection system is recommended at the operation source. Adequate ventilation must be provided

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when working with the product at elevated temperatures.

Eye protection: Throughout basic product handling processes, and whenever handling materials



containing fiberglass, safety glasses, goggles or face shields should be worn.

Hand protection: Throughout basic product handling processes, leather or synthetic fibre gloves are

recommended to minimize cuts and abrasions.

Skin and body protection:

The wearing of a loose fitting long sleeved shirt that covers to the base of the neck and long trousers is recommended to minimise exposure to fiberglass. Skin irritation from exposure to fiberglass is known to occur mostly at pressure points

such as around the neck, wrist and waist.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practices.

Wash hands immediately after handling the product and do not contaminate

tobacco products.

Be careful not to rub or scratch areas irritated from fiberglass exposure, as fibres may be forced into the skin. Wash off any fiberglass in contact with the skin, and

consider the use of barrier creams which can minimise irritation.

Always use vacuum equipment to remove fibres and dust from clothing and never

use compressed air.

Contaminated clothes should always be washed separately.

Respiratory protection: Not required for normal use of the product.

In situations where high levels of airborne dust/glassfibres are present and which

exceed permissible exposure limits, or irritation occurs, then a correctly fitting

NIOSH/MHSA approved disposable dust respirator should be used.

In situations in confined spaces where the temperature of the polymer exceeds

500°F (260° C), an air supplied respirator should be used.

In situations where high levels of airborne dust/glassfibres or fume, use industrial

hygiene monitoring to ensure that TLV or PEL values are not exceeded. Excessive exposure to thermal degradation products could result in delayed pulmonary edema and in some cases, and on very high exposure damage to the liver and kidneys. These substances may include perfluoroisobutylene (TLV = 10ppb), carbonyl fluoride (TLV = 2ppm TWA, 5ppm STEL), hydrogen fluoride (TLV =

2ppm ceiling, 0.5ppm TWA).

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES 9.1 Information on basic physical and chemical properties Light tan, black, with Flammability (solid, gas): N/D Appearance: yellow liner. Upper/lower flammability N/A Physical state: Solid or explosive limits: Odour: Odourless Vapour pressure: N/A Odour threshold: N/A Vapour density: N/A N/A Relative density: N/D pH:



Product - Insoluble Melting N/A to product Solubility(ies): point/freezing point: Inter-liner softening Inter-liner soluble in tetrahydrofuran and temperature 60-90°C cyclohaxanone, partly soluble Glass transition temp in some aromatic approx. 80°C hydrocarbons Partition coefficient: n-N/A octanol/water: **Initial boiling point** Auto-ignition temp: N/A N/A and boiling range: Flash point: N/A Decomposition temp: Product 572°F (300°C) Inter-liner -> 150°C **Evaporation rate:** N/A (long term contact) Viscosity: N/A >200°C (short term contact)

SECTION 10 STABILITY AND REACTIVITY 10.1 Reactivity: Stable at normal ambient temperature and pressure 10.2 Chemical stability: Product is chemically stable Stable under recommended storage conditions 10.3 Possible hazardous reactions: 10.4 Conditions to avoid: Avoid heating for prolonged periods above the recommended upper usage limit 10.5 Incompatible materials: Alkali metals, Strong oxidizing agents, Halogenated compounds 10.6 Hazardous decomposition products: May include: Fluorinated hydrocarbons, Carbonyl fluoride, Hydrogen fluoride, carbon oxides, perfluoroisobutylene, tetrafluoroethylene, hexafluoropropylene, trifluoromethane, silicon dioxide, and hydrogen chloride (for the inter-liner).

SECTION 11 TOXICOLOGICAL INFORMATION				
11.1 Information on toxic	ological effects			
Acute oral toxicity	Polytetrafluoroethylene LD50 / rat : > 11,280 mg/kg			
	PVC (inter-liner)	Recognised as safe and biologically inert		
Skin irritation	May cause skin irritation in susceptible persons.			
	Polytetrafluoroethylene Polytetrafluoroethylene			
	Human Rabbit			
	Classification: Not classified as Classification: Not classified as irritant			
	irritant Result: No skin irritation			
	Result: No skin irritation			



Eye irritation Mild eye irritation

Sensitisation Polytetrafluoroethylene

Human

Classification: Not a skin sensitizer. Result: Does not cause skin sensitization.

Patch test on human volunteers did not demonstrate sensitization properties.

Repeated dose toxicity Polytetrafluoroethylene

Oral - feed rat - no toxicologically significant effects were found.

Mutagenicity assessment Polytetrafluoroethylene

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity assessment Polytetrafluoroethylene

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Not classifiable as a human carcinogen.

Toxicity to reproduction

assessment

Polytetrafluoroethylene No toxicity to reproduction

STOT-Single exposure No data available

STOT-Repeated exposure No data available

Aspiration hazard Not applicable

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity Toxicity to fish (Polytetrafluoroethylene) - the substance is a

polymer and is not expected to produce toxic effects.

PVC is not soluble in water (WKG 0 by supplier self- declaration).

PVC is harmless in contact with fish and bacteria.

In a water treatment plant, PVC can be separated mechanically.

12.2 Persistence and degradability

12.3 Bio-accumulative potential

ntial

no data available no data available

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

12.4 Mobility in soil

Additional ecological information

no data is available on the product itself.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product Where possible, recycling is preferred to disposal or incineration. Dispose of in accordance

with local regulations. Incinerate only if incinerator is capable of scrubbing out hydrogen

fluoride and other acidic combustion products.



SECTION 14 TRANSPORT INFORMATION					
	14.1	14.2	14.3	14.4	14.5
	UN Number	Proper Shipping Name	Transport Hazard Class(es)	Packing Group	Environmental Hazards
DOT	Not Applicable	Not Applicable	Not Applicable	Not Applicable	None
ADR	Not Applicable	Not Applicable	Not Applicable	Not Applicable	None
IATA/ICAO	Not Applicable	Not Applicable	Not Applicable	Not Applicable	None
IMO/IMDG	Not Applicable	Not Applicable	Not Applicable	Not Applicable	None
14.6 Special precautions for user:		Not classified as dangerous in the meaning of transport.			
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:		Not applicable			

SECTION 15 REGULATORY INFORMATION				
ronmental regulations/legislation specific for the substance or mixture				
All ingredients in the product are listed in the TSCA inventory				
None				
Not applicable				
Not applicable				
Not applicable				
This product does not contain chemicals known to the State of California to cause cancer of the reproductive system.				
Massachusetts, New Jersey, Pennsylvania: This product does not contain any chemicals listed for state right to know purposes.				
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.				
Not controlled				
All ingredients in this product are listed, as required, on Canada's Domestic				
Substances List (DSL).				
Not applicable.				



EC Classification for the Substance/Preparation

Symbol: This product is not classified as dangerous according to Directive 1999/45/EC

and its amendments.

German Water Hazard

Class

German Water Hazard Class WGK nwg. Non-water polluting substance.

Other regulations: Take note of Directive 98/24/EC on the protection of the health and safety of

workers from the risks related to chemical agents at work.

15.2 Chemical Safety Assessment

No data available

SECTION 16 OTHER INFORMATION

Text of R-phrases referred to in Section 3: N/A

Text of H-Statements referred to in section 3: N/A

Preparation Information:

Prepared by: Green Belting Industries Limited

www.greenbelting.com

Revision Date: 19 December 2013

Revision Summary: Review of regulatory, hazard classification, exposure and

toxicology data. No revisions to date.

Abbreviations and acronyms:

Abbreviations and actoryms.			
Section	Abbreviation	Description	
2	CFR	Code of Federal Regulations	
3	CAS	Chemical Abstracts Services	
3	OSHA	Occupational Safety and Health Administration USA	
3	ACGIH	American Conference of Governmental Industrial Hygienists	
3	PEL	Permissible Exposure Limit	
3	TLV	Threshold Limit Value	
3	SVHC	Substances of Very High Concern	
8	TWA	Time Weighted Average	
8	STEL	Short-Term Exposure Limit	
8	IDLH	Immediately Dangerous to Life or Health (NIOSH)	
8	NIOSH	National Institute for Occupational Safety and Health	
8	ppm	Parts per Million	
8	ppb	Parts per Billion	



11	LD ₅₀	"Lethal Dose, 50%" or median lethal dose (amount of substance required by body weight to kill 50% of the test population	
11	STOT	Specific Target Organ Toxicity	
12	PBT	Persistent, Bio-accumulative and Toxic	
12	vPvB	Very Persistent and Very Bio-accumulative	
14	DOT	Department of Transport	
14	ADR	Agreement on Dangerous Goods	
14	IATA	International Air Transport Association	
14	ACAO	International Civil Aviation Organisation	
14	IMO	International Maritime Organization	
14	IMDG	International Maritime Dangerous Goods	
14	TSCA	Toxic Substances Control Act	
15	SARA	Superfund Amendments and Reauthorization Act	
15	CERCLA RQ	Comprehensive Environmental Response Compensation and	
		Liability Act	
15	WGK	German Water Hazard Class	
15	WHMIS	Workplace Hazardous Materials Information System	
Disclaimer:	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.		

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