

**Baotek Industrial Materials LTD.**  
**建榮工業材料股份有限公司**  
 Safety Data Sheet  
**安全資料表**

**Section 01 、Product and company information 物品與廠商資料**

Products 產品名稱：Continuous filament glass fiber 長纖玻璃纖維紗
Product Types 產品型別：E-Glass Fabric 電子級玻璃纖維布
Manufacturer's Name 製造者名稱: BAOTEK Industrial Materials LTD. 建榮工業材料股份有限公司
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**Section 02 Hazards identification 危害辨識資料**

Primary Routes) of Entry 主要進入途徑：Inhalation 吸入, Skin 皮膚接觸, Eye 眼睛接觸
Health Hazards 對健康的危害： Acute 急性: Exposure to continuous filament glass fiber sometimes causes irritation of the skin and, less frequently, irritation of the eyes, nose, or throat. 對連續暴露於長纖玻璃纖維紗的環境中，有時會引起皮膚過敏和偶會發生眼睛、鼻子的刺激或者喉嚨的發炎。 Chronic 慢性: A number of epidemiology studies, done over many years, of workers employed for up to 40years in the manufacture of glass fiber have shown no evidence of increases in either malignant or non-malignant respiratory disease attributable to exposure to glass fiber. However, recent studies have shown slight increases in lung cancer among workers employed in the manufacture of glass wood and insulation products. 許多流行病學研究，對於一個在玻璃纖維的製造廠內工作 40 年的工人，重複做很多年追蹤研究，顯示沒有明顯的證據，可歸因長期暴露於玻璃纖維中，而使呼吸系統增加有害或無害之疾病。不過，新近的研究反而顯示在受雇於玻璃木頭和絕緣產品的製造業工人中，有輕微的肺癌的增加趨勢。 Signs and Symptoms of Overexposure 明顯的跡象和症狀： Rash 長疹, itching 發癢, conjunctivitis 結膜炎, coughing 咳嗽, sneezing 打噴嚏。 Medical Conditions Aggravated by Exposure 因為暴露被加劇的醫療條件：None know. 未知。

**Section 03 、Composition and ingredient information 成分辨識資料**

Common name 中英文名稱：	Fiber glass continuous filament 長纖玻璃纖維紗	Surface Sizing 表面處理劑
(CAS No.)化學文摘社登記號碼：	65997-17-3	complex mixture 合成 混合物
Wt. % 重量：	99.84-99.98	0.02-0.16
Non hazardous Ingredients 無危害物質成份		

**Section 04 First aid measures 急救措施**

Inhalation 吸入	Move person to fresh air, seek medical attention if irritation persists. 移動到空氣新鮮處，如果不適感持續，就醫。
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Skin contact 皮膚接觸	Rinse contacted areas with room temperature to cool water, then wash gently with mild soap. If glass fiber becomes embedded, seek medical attention. 用室溫冷水沖洗接觸區域，再用溫和的肥皂輕輕地擦洗。如果被玻璃纖維嵌入，找醫生檢查治療。
Eye contact 眼睛接觸	Flush eyes with clear water for at least 15 minutes - seek medical attention. 用清水沖洗眼睛至少15分鐘 - 找醫生檢查治療。
Ingestion 食入	Ingestion of this material is unlikely. If it does occur, watch the person for several days to make sure that intestinal blockage does not occur. 食入這種材料是不可能的，如果它確實發生了，觀察發生的人幾天，以確保不會發生腸道阻塞。

### Section 05 Fire fighting measures 滅火措施

Flash Point 閃燃點	Non-burning 非燃性
Flammability limits (%) 可燃性的限制	Not applicable 不適用
Auto Ignition temperature 自燃的溫度	Not applicable 不適用
Extinguishing media 滅火劑	Not applicable 不適用
Unusual fire and explosion hazards 異常著火和爆炸的危險	Not applicable 不適用
Special Fire Fighting Procedures 特別的防火程序	In a sustained fire, self-contained breathing apparatus (SCBA) should be worn. 要穿戴可防火及完備自足的呼吸設備(SCBA)

### Section 06 Accidental release measures 洩漏處理方法

Steps to be Taken in Case Material is Released or spilled 萬一材料被釋放或濺出採取的措施：No special precautions. 沒有特別的預防措施。
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### Section 07 Handling and storage 安全處置與儲存方法

None relative to health and safety. 完全與健康和安全的關係。
or optimum performance. Glass Fiber products should be stored at a temperature less than 25 C, and relative humidity less than 65%. 最佳的執行方法為：應該將玻璃纖維產品，儲存在溫度低於 25 °C 和相對濕度低於 65% 之地方。

### Section 08 Exposure controls and personal protection 暴露預防措施

Ingredient 成份	OSHA PEL	ACGIH TLV
Fiber glass continuous filament 長纖維玻璃纖維紗	(8-hr TWA) 八小時日時量平均容許濃度	(8-hr TWA) 八 小時日時量平均容許濃度
Nonrespirable fibers and particulate 非吸入性的纖維及粉塵	15 mg/m <sup>3</sup> (Total Dust)	5 mg/m <sup>3</sup> (Installable Fraction)
Respirable particulate 可吸入性的粉塵	5 mg/m <sup>3</sup> (Respirable Dust)	3 mg/m <sup>3</sup> (PNOC)
Respirable particulate with fiber like dimensions (glass shards) 可吸入性的纖維粉塵尺寸(玻璃碎片)	None established	1 fiber/cc Aspect ratio >5:1
Size 尺寸	None established	None established

PNOC = Particles Not Otherwise Classified

#### Special protection information 特別的防護資訊

Ventilation 通風: Use local exhaust ventilation if necessary to maintain airborne levels to below established limit. 如有必要需使用局部排氣通風，使空氣密度水準低於所立之標準。

Personal protection 個人防護設備: Use of overalls, buttoned to fit loosely at the neck and wrists, long trousers, and good personal hygiene will maximize comfort. The use of barrier creams may provide additional comfort. 穿戴罩衫，扣上鈕扣在脖子和腕處要鬆弛適合及穿長褲子，外加好的個人衛生將大大增加舒適感。使用防護霜可提

供更進一步的舒適感。
Respiratory Protection 呼吸保護：None normally required. If airborne glass fiber concentrations exceed the control limit, respiratory protection for nuisance dusts should be provided. 通常沒有必要。如果在空氣中玻璃纖維密度超過控制限度，必須使用防護灰塵之呼吸防護器具。
Eye Protection 眼睛防護：Safety glasses with side shields. 使用有邊盾的安全眼鏡。
Protective Gloves 防護手套：May reduce skin irritation in some operations. 可以在一些操作過程中降低皮膚發炎。

## Section 09 Physical and chemical properties 物理及化學性質

Melting Point (softening) 熔點(軟化)：	800°C
Boiling Point (°C) 沸點：	Not applicable 不適用
Vapor Pressure (mm Hg) 蒸氣壓力：	Not applicable 不適用
Vapor Density (Air-1) 蒸氣密度：	Not applicable 不適用
Specific Gravity (Bare Glass) 比重(裸玻璃)：	2.59
Percent Volatile (Vol.) 揮發性百分比(體積)：	0.1 Max 最大值. (Water)(水)
Evaporation Rate 蒸發比例：	Not applicable 不適用
Solubility in Water 水中溶解度：	Insoluble 不可溶
Appearance and Odor 外觀和氣味：	Yellow-white to white fiber bound together in strands and fabric, having no odor. 為黃-白至白色之纖維紗束和布，沒有任何氣味。
Fiber Diameter 纖維直徑：	The filaments have diameters in the range 5 to 15 microns, depending upon product type and are well above the maximum size considered to be respirable (approx. 3.5 microns). They will not sub-divide into fibrils of smaller diameters. 依產品型別而定，單長纖維直徑在範圍 5 到 15 微米之間，且其直徑遠遠超過可被呼吸的最大尺寸(大約 3.5 微米)，他們將無法再被分解成更小直徑的小纖維。

## Section 10 Stability and reactivity 安定性及反應性

Stability 穩定性：Stable 穩定
Conditions to Avoid 要避免的條件：None Know 未知。
Incompatibility (materials to Avoid) 不相容性(要避免的材料)：None Know 未知。
Hazardous Decomposition Products 有害的分解產物：In a sustained fire, sizing and binders may decompose releasing hazardous products of combustion. 在足溫燃燒下，紗上所上的漿及紗本身之漿料，可能分解釋放有害的燃燒產物。
Hazardous Polymerization 有害的聚合物：Will not occur 不會發生。

## Section 11 Toxicological information 毒性資料

Carcinogenicity Status 致癌性狀態：
Continuous filament glass fiber has been designated by the International Agency for Research in Cancer (IARC) as a Group 3, "not classifiable as to human carcinogenicity". This means that evidence is insufficient to link that fiber to cancer. 國際癌症研究機構(IARC) 第 3 組，已經指明不可將長纖的細絲玻璃纖維歸類於人類致癌之項目，這表明沒有充分之證據把那纖維和癌症連結在一起。
Those same studies showed no evidence of a similar effect among continuous filament glass fibre workers. This product is a continuous filament glass fiber product. Animal inhalation studies for glass fiber have not show evidence of either a carcinogenic or fibrogenic response. Studies using artificial implantation or injection of glass wool into animals have resulted in cancer.
However, since there are no natural mechanisms which would mimic such artificial exposures, those studies are not thought to be relevant to human exposure.
那些相同的研究，顯示長期在長纖的細絲玻璃纖維的環境中工作的工人中，沒有發生相似的效應的證據。這種產品是一種長纖的細絲玻璃纖維產品。動物吸入玻璃纖維之研究，證明致癌或者纖細反應兩者中，並沒

有任何相連關係。在使用人工植入或者將玻璃纖毛注射到動物的研究，已知會致癌症。然而，至今沒有自然之技巧可模擬這種人工的暴露，致而這些研究，不被認同為與人類暴露之情況有相關。

#### Section 12 Ecological information 生態資料

This material is not expected to cause harm to animals, plants or fish. 這種材料對生態環境是無害的。

#### Section 13 Disposal considerations 廢棄處置方法

Dispose of as solid waste in accordance with Government regulations. 根據政府規章之固體廢棄物處置方法處理。

#### Section 14 Transport information 運送資料

DOT Shipping Name	This material is not regulated hazardous material for transportation.
Hazard class or division	None
Quantity limitations	None

#### Section 15 Regulatory information 法規資料

SARA Title III	Hazard categories :	
	Acute health	Yes
	Chronic health	No
	Fire hazard	No
	Pressure hazard	No
	Reactivity hazard	No

#### Section 16 Other information 其他資料

Reference 參考文件	Health & Safety Executive Guidance Note EH40/88 Occ. 健康和執行指導備忘錄 EH40/88 Occ. Exposure Limits 1988 (Appendix 2) 曝露限制 1988 年版(附錄 2).
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