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## 玻璃纤维粗纱安全技术说明书

# SAFE USE INSTRUCTIONS OF ROVING

适用连续玻璃纤维产品

For Continuous Glass Fiber Products

## 引言 INTRODUCTION

美国职业安全与卫生条例(管理局)OSHA HazCom Standard 29 CFR 1910.1200(g)、全球化学品统一分类和标签制度(GHS) Rev 06 以及 2007 年 6 月 1 日实施的欧洲化学品法规 No.1907/2006 (REACH) 规定只有危险物质和制剂需要材料安全数据表(MSDS), 我司连续玻璃纤维产品在 OSHA 和 REACH 中规定为物品, 因此不要求材料安全数据表(MSDS)。

According to the requirements of OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 06, as well as European Regulation(ER) on Chemicals No.1907/2006(REACH) enforced from June 1<sup>st</sup> 2007, Material Safety Data Sheets (MSDS) are required only for hazardous substances and preparations. Continuous glass fiber products of our company are defined as “articles” under OSHA and REACH, therefore MSDS are not required for them.

为了保证客户取得正确处理和使用玻璃纤维产品所需的合适信息, 巨石集团有限公司向客户提供此份安全使用指示表。

In order to ensure our customers' acquisition of information on proper handling and use of glass fiber products, Jushi Group provides the customers with this Safe Use Instructions.

## 第一部分 化学品及公司标识 SECTION 1 –IDENTIFICATION

### 产品识别

### Product Identifier

**商品名称:** 玻璃纤维

**Trade name:** Glass fiber

**有关物质或混合物的确定用途和使用建议:** 没有进一步的相关信息。

**Relevant identified uses of the substance or mixture and uses advised against:**

No further relevant information available.

**产品描述:** 连续玻璃纤维产品, 包括合股无捻粗纱、直接无捻粗纱、干法短切原丝、湿法短切原丝、阻燃玻纤、无捻粗纱布、粉剂短切原丝毡、乳剂短切原丝毡、连续玻璃纤维纱、商品丝饼、割断原丝、膨体纱、磨碎玻纤。

**Product Description:** Continuous fiber glass products, including Assembled Roving, Direct Roving, Dry Chopped Strands, Wet Chopped Strands, Flame Retardant Fiber Glass, Woven Roving, Powder Chopped Strand Mat, Emulsion Chopped Strand Mat, Glass Filament Yarn, Marketable Cake, Cut Strands, Texturized Roving and Milled Fiber.

**安全数据表供应商的详细资料:**

**Details of the Supplier of the Safety Data Sheet:**

**制造商/供应商**

**Manufacturer/Supplier:**

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<http://www.jushi.com/>

JUSHI GROUP CO., LTD.

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巨石集团成都有限公司

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0086-573-88181222 获取产品信息 for product information

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**Distributor:**

**HELM AG HAMBURG**

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If you are not able to reach the above phone numbers, please call the company emergency number.

**第二部分 危险性概述 SECTION 2 – HAZARD(S) IDENTIFICATION**

根据 OSHA HazCom Standard 29 CFR 1910.1200(g)、67/548/EEC、99/45/EC 和 ST/SG/AC.10/30/Rev6 及其最新修订版的指令，玻璃纤维产品属于物品，它们并不属于危

险物。

With regard to their composition, these products are articles and not classified as hazardous according to OSHA HazCom Standard 29 CFR 1910.1200(g), European Directive 67/548/EEC and 99/45/EC, ST/SG/AC.10/30/Rev6 and their latest amendments.

玻璃纤维产品不含有在正常或合理预见的条件下发布的危害物质。该物质根据《全球化学品统一分类和标签制度》(GHS) 进行分类和贴标签。

Glass Fiber products do not contain hazardous substances which can be released under normal or reasonably foreseeable conditions. The substance is classified and labeled according to the Globally Harmonized System(GHS).

### 危害分类和标签

#### Hazard classification and labeling:

分类 Classification		标签 Labeling				危险性说明代码 Hazard statement codes	
危害分类 Hazard class	危害等级 Hazard category	象形图 Pictogram		警示词 Signal word	危险性说明 Hazard statement		
		GHS	危险品运输范本法规 UN Model Regulations				
急性毒理 Acute toxicity	5	口腔 Oral	无象形图 No pictogram	不需要 Not required	警告 Warning	吞咽可能有害。 May be harmful if swallowed.	H303
		皮肤 Dermal				与皮肤接触可能有害。 May be harmful in contact with skin.	H313
		吸入 Inhalation				吸入可能有害。 May be harmful if inhaled.	H333
皮肤过敏 Skin irritation	3	无象形图 No pictogram	不需要 Not required	警告 Warning	产生轻微的皮肤刺激。 Causes mild skin irritation.	H316	
眼睛过敏 Eye irritation	2B	无象形图 No pictogram	不需要 Not required	警告 Warning	产生眼睛刺激。 Causes eye irritation.	H320	

#### 防范说明

#### Precautionary statements

P280 佩戴保护手套/保护衣服/眼睛/脸部保护罩

Wear protective gloves/protective clothing/eye protection/face protection

P264 接触后彻底清洗皮肤

Wash thoroughly after handling.

#### 未知的急性毒性

**Unknown acute toxicity:**

这个数值是指已知的并确定的毒理或生态毒理值的知识。0%的混合物由未知毒性的组分构成。

This value refers to knowledge of known, established toxicological or ecotoxicological values. 0% of the mixture consists of component(s) of unknown toxicity.

分类系统: NFPA / HMIS 定义: 0-最小, 1-轻度, 2-中度, 3-高度, 4-极限。

**Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme.

**NFPA 评级 (0-4 级)****NFPA ratings (scale 0-4)**

健康 Health = 0

火 Fire = 0

反应性 Reactivity = 0

**HMIS-评级 (0-4 级)****HMIS- ratings (scale 0-4)**

健康 Health = 0

火 Fire = 0

反应性 Reactivity = 0

未被分类的危害 (HNOC): 未知。

**Hazard(s) not otherwise classified(HNOC):** None known.

### 第三部分 成份/组成信息

## SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

**主要成份 Product Composition:**

产品名称 Product Name	玻璃 Glass, %	浸润剂 Sizing, %	粘结剂 Binder, %	水份 Water, %
合股无捻粗纱 Assembled Roving	98.75±0.75	1.05±0.75	/	≤0.20
直接无捻粗纱 Direct Roving	99.28±0.58	0.62±0.48	/	0.10±0.1
干法短切原丝	99.08±0.82	0.82±0.75	/	≤0.10

产品名称 Product Name	玻璃 Glass, %	浸润剂 Sizing, %	粘结剂 Binder, %	水份 Water, %
Dry Chopped Strands				
湿法短切原丝 Wet Chopped Strands	89.90±2.10	0.10±0.10	/	10.0±2.0
阻燃玻纤 Flame Retardant Fiber Glass	99.08±0.82	0.82±0.75	/	≤0.10
无捻粗纱布 Woven Roving	99.33±0.53	0.57±0.43	/	0.10±0.1
粉剂短切原丝毡 Power Chopped Strand Mat	95.40±2.95	0.85±0.50	3.65±2.35	0.10±0.1
乳剂短切原丝毡 Emulsion Chopped Strand Mat	94.85±1.80	0.85±0.50	4.20±1.20	0.10±0.1
连续玻璃纤维纱 Glass Filament Yarn	98.90±0.30	1.00±0.20	/	0.10±0.1
割断纤维 Cut Strands	88.50±3.50	/	/	11.5±3.5
商品丝饼 Marketable Cake	99.45±0.25	0.45±0.15	/	0.10±0.1
膨体纱 Texturized Roving	99.55±0.35	0.35±0.25	/	0.10±0.1
磨碎玻纤 Milled Fiber	98.98±0.82	0.82±0.75	/	≤0.20

**CAS No.:**

玻璃纤维 Glass Fiber: 65997-17-3

浸润剂: 无

Sizing: N/A

**浸润剂 Sizing :**

浸润剂是各种化学物质的混合物，用于涂覆玻璃原丝表面。浸润剂所含的大部分物质是由无反应活性的高分子量聚合物组成，通常是无活性的天然成分（比如淀粉），不属于 TSCA、EINECS 和 ELINCS 附录中所列物质。

Sizing is a mixture of chemicals applied to the strand surface. It mainly consists of high-molecular polymers of no reactivity (usually natural ingredients, such as starch) which are not listed in the appendices of TSCA or EINECS or ELINCS.

在有些情况下，浸润剂可能含有有机硅烷类物质或其他物质。由于这些物质浓度极低（低于总质量的 0.1%）并且它们可能会在玻璃纤维产品生产中发生聚合，因此即使这些物质有可能被列入危险物质，制造商一般也会忽略这些物质的危害。

In some cases, sizing maybe also contains substances of organic-silane family or other substances. The manufacturer considers this risk as negligible as, even though listed as hazardous substance, their concentration is extremely low (under 0.1% of total weight) and they are polymerized during the production of glass fibers.

## 第四部分 急救措施 SECTION 4 – FIRST-AID MEASURES

**急救措施说明:**

### DESCRIPTION OF FIRST AID MEASURES:

**吸入:** 如果吸入应迅速将人员移到空气新鲜的地方。如果持续过敏应到医院就诊。

**After inhalation:** Immediately move to fresh air. Please go to a doctor if irritation increases.

**皮肤接触:** 如皮肤过敏，用肥皂和冷水冲洗。千万不要用热水冲洗，因为热水会使皮肤的毛孔张开，使玻璃纤维刺得更深。如果玻璃纤维刺入皮肤，用一条毛巾帮助拔出。为避免进一步恶化，不要擦、抓已经感染的皮肤，如果持续过敏应到医院就诊。千万不要用压缩空气来清除皮肤上的玻璃纤维。

**After skin Contact:** If irritation occurs to the skin, rinse with soap and water. Make sure to refrain from rinsing with warm water since warm water will make the skin pores open to allow glass fiber to penetrate deeper. If glass fiber penetrates the skin, use a wash cloth to help pull out the glass fiber. Do not rub or scratch affected skin to any further any further deterioration. Please go to a doctor if irritation increases. Make sure to refrain from using compressed air to remove glass fiber from skin.

**眼睛接触:** 立即用清水冲洗眼睛，至少 15 分钟。如持续过敏应到医院就诊。

**After eye Contact:** Immediately flush eyes with clean water for at least 15 minutes. Please go to a doctor if irritation increases.

**食入:** 一般情况下，食入这种材料的可能性不大。但如果出现了这种情况，应观察几天，确信肠胃是否不适。不要让他呕吐，除非医务人员要求这样做。如果持续不舒服应到医院就诊。

**After swallowing:** Normally, swallowing is less than likely. If it does occur, keep the person under observation for several days to make sure that no gastrointestinal disturbance occurs. Do not induce vomiting unless required by medical staff. Please go to a doctor if irritation increases.

**就诊信息 Information for doctor:**

**最重要的急性和延迟的症状和影响:** 没有进一步的相关信息。

**Most important symptoms and effects, both acute and delayed:**

No further relevant information available.



指示需要立即就医和特殊治疗：没有进一步的相关信息。

**Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

## 第五部分 消防措施 SECTION 5 – FIRE-FIGHTING MEASURES

连续玻璃纤维产品不易燃，是不燃性物质，不支持燃烧。

**Continuous glass fiber products are neither flammable nor incombustible.**

仅玻璃纤维上浸润剂和包装材料可以燃烧，在大范围和持续靠近热源或火源情况下，会释放小量有害气体。

Only the sizing and the packing materials are combustible and could release small quantities of hazardous gas in case of major and prolonged heat or fire.

**有害燃烧产物： Hazardous Combustion Products :**

燃烧主要释放物为一氧化碳、氢、二氧化碳和水。其他还释放微量的未确定混合物。

Primary combustion products are carbon monoxide, hydrogen, carbon dioxide and water. Other undetermined compounds can be released in small quantities.

灭火介质：

**Extinguishing media:**

合适的灭火剂：使用适合环境的消防措施，如干粉、泡沫、二氧化碳和水。

**Suitable extinguishing agents:** Use firefighting measures that suit the environment, such as dry chemical, foam, carbon dioxide and water.

源于此物质或混合物的特别的危害：没有进一步的相关信息。

**Special hazards arising from the substance or mixture:** No further relevant information available.

给消防员的建议：

**Advice for firefighters:**

防护装备：

**Protective equipment:**

在任何火源中，请佩戴自给式呼吸器（NIOSH 认可或同等）和全套防护装备，以防止接触皮肤和眼睛。

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

## 第六部分 泄露应急处理

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

**个人预防措施, 防护设备和应急程序:**

**Personal precautions, protective equipment and emergency procedures:**

穿戴防护设备。避免接触皮肤和眼睛。

Wear protective equipment. Avoid contact with the skin and the eyes.

**环境预防措施:** 不要让其进入下水道/地面或地下水。

**Environmental precautions:** Do not allow to enter sewers/surface or ground water.

**遏制和清理的方法和材料:**

**Methods and materials for containment and cleaning up:**

按规定处理收集的材料。

Dispose of the collected material according to regulations.

**其他部分参考:**

**Reference to other sections:**

有关安全操作的信息, 请参阅第 7 部分。

See Section 7 for information on safe handling.

有关个人防护装备的信息, 请参阅第 8 部分。

See Section 8 for information on personal protection equipment.

有关废弃处理信息, 请参阅第 13 部分。

See Section 13 for disposal information.

## 第七部分 操作处置和储存 SECTION 7 – HANDLING AND STORAGE

**处理 Handling**

**安全处理注意事项:**

**Precautions for safe handling:**

应尽量避免包装破损, 保持产品在包装中;

Try to prevent the packing material from being damaged and keep the product inside the packing material to minimize the generation of dusts.

尽可能产生最小的粉尘, 使工作环境清洁; 避免不合理的操作产生碎屑。

Maintain a clean work environment and avoid generation of glass fiber fragments from improper handling.

有关防止爆炸和火灾的信息：

**Information about protection against explosions and fires:**

不需要特别措施。

No special measures required.

安全储存条件，包括任何不兼容情况：

**Conditions for safe storage, including any incompatibilities:**

存储

**Storage**

储存库和容器须要达到的要求：

**Requirements to be met by storerooms and receptacles:**

保持产品在包装中直到使用，预防灰尘污染。

Keep the product in its packaging until use to minimize potential dust generation.

有关在一个共同的储存库内储存的地方：不要求。

**Information about storage in one common storage facility:** Not required.

有关储存条件的更多信息：无。

**Further information about storage conditions:** None.

具体的最终用途：没有更多的相关信息可用。

**Specific end use(s):** No further relevant information available.

## 第八部分 接触控制/个体防护

### SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

有关技术系统设计的其他信息：

**Additional information about design of technical systems:**

没有更多的数据；见第 7 部分。

No further data; see section 7.

控制参数：

**Control parameters:**

具有职业接触限值的成分：

**Components with occupational exposure limits:**

附加信息：

**Additional information:**

在创建此 SDS 时有效的列表被用作基础。

The lists that were valid during the creation of this SDS were used as basis.

#### 接触控制:

#### Exposure controls:

连续玻璃纤维是不可吸入的，但是在特定机械过程中可能会产生粉尘或细纤维。职业接触限值以下适用于机载纤维暴露和/或接触粉尘。以下提及的职业接触限值适用于机载纤维暴露和/或接触粉尘。

Continuous glass fibers are not respirable. However, certain mechanical processes might generate airborne dust or fibers. The occupational exposure limits below mentioned are applicable to airborne fiber exposure and/or to dust exposure.

#### 接触限值:

#### Exposure limits:

注：连续玻璃纤维产品的用户必须遵守工人职业健康防护的相关国家规定。下面是一些欧洲国家和中国的职业接触限值。（8 小时工作制）

**NOTE:** The user of continuous glass fibers products has to comply with the national regulations on occupational health protection. Occupational exposure limit values in some European countries are illustrated as below. (8-hour work day)

	可吸入微粒 Respirable dust	粉尘总数 Total Dust	可吸入纤维 Respirable Fiber
美国政府卫生协商会 ACGIH	3 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	1fiber/ml
奥地利 Austria	6mg/m <sup>3</sup>	/	0.5fiber/ml
丹麦 Denmark	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	1fiber/ml
芬兰 Finland	/	10 mg/m <sup>3</sup>	1fiber/ml
法国 France	/	10 mg/m <sup>3</sup>	1fiber/ml
德国 Germany	3 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	0.25fiber/ml
爱尔兰 Ireland	5 mg/m <sup>3</sup>	/	2fiber/ml
意大利 Italy	3 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	1fiber/ml
荷兰 Netherlands	2 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	1fiber/ml
挪威 Norway	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	1fiber/ml
葡萄牙 Portugal	/	4 mg/m <sup>3</sup>	1fiber/ml
西班牙 Spain	3 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	1fiber/ml
英国 United Kingdom	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	2fiber/ml
中国 China	/	3 mg/m <sup>3</sup>	/

**个人防护设备：****Personal protective equipment:****一般保护和卫生措施：****General protective and hygienic measures:**

应遵循通常的化学品处理预防措施。

The usual precautionary measures for handling chemicals should be followed.

远离食品、饮料和饲料。

Keep away from foodstuffs, beverages and feed.

立即除去所有污染的衣物，并在再次使用前清洗。

Immediately remove all soiled and contaminated clothing and wash before reuse.

在休息之前和工作结束时洗手。

Wash hands before breaks and at the end of work.

避免接触眼睛和皮肤。

Avoid contact with the eyes and skin.

**工程控制****Engineering Control:**

生产区域密闭，保持一定的环境相对湿度。

Production areas are closed off and a required relative humidity is maintained.

**身体防护****Body Protection:**

推荐穿长袖、长裤，宽松合身的正规工作衣服；皮肤过敏主要出现在接触点，如：脖子周围和腰部。

Normal loose working clothing (long-sleeved shirts and long pants) is recommended.

Skin irritation occurs primarily at the contact areas such as around the neck and waist.

**呼吸设备：****Breathing equipment:**

在粉尘浓度较高的环境中工作时，应佩戴合适的口罩。

Wear a suitable mask when working in an environment where dust concentration is high.

**手防护****Protection of hands:**

防护手套

Protective gloves

眼睛防护

Eye protection:



紧密密封的护目镜

Tightly sealed goggles

## 第九部分 理化特性

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

有关基本物理和化学特性的信息

Information on basic physical and chemical properties

<b>一般信息 General Information</b>	
<b>外观 Appearance</b>	
<b>性状 Form</b>	固体 Solid
<b>颜色 Color</b>	主要是白色或微白 White or off-white mainly
<b>气味 Odor</b>	无味 Odorless
<b>气味阈值 Odor threshold</b>	未确定 Not determined
<b>pH</b>	不适用 Not applicable
<b>条件改变 Change in condition</b>	
<b>熔点/熔程 Melting point/Melting range</b>	> 800°C
<b>沸点/沸程 Boiling point/Boiling range</b>	不适用 Not applicable
<b>闪点 Flash point</b>	不适用 Not applicable
<b>易燃性（固体，气体） Flammability (solid, gaseous)</b>	不适用 Not applicable
<b>引燃温度 Ignition temperature</b>	不适用 Not applicable
<b>分解温度 Decomposition temperature</b>	不适用 Not applicable
<b>自燃 Auto igniting</b>	产品不自燃 Product is not self-igniting
<b>爆炸危险性 Danger of explosion</b>	该产品不存在爆炸危险。 Product does not present an explosion hazard.

爆炸极限 <b>Explosion limits</b>	下限 Lower: 0.0 Vol % 上限 Upper: 0.0 Vol %
蒸气压力 <b>Vapor pressure</b>	未确定 Not determined
相对密度 <b>Relative density</b>	水的 2.6 倍 / 2.6 Times that of water
相对蒸汽密度 <b>Relative vapor density</b>	不适用 Not applicable
蒸发率 <b>Evaporation rate</b>	未确定 Not determined
<b>溶解性/可混溶性 Solubility in / Miscibility with</b>	
水中 <b>Water</b>	不混溶 Not miscible
分配系数 (正辛醇/水) <b>Partition coefficient (n-octanol/water)</b>	未确定 Not determined
<b>粘度 Viscosity</b>	
动态 <b>Dynamic</b>	未确定 Not determined
运动学 <b>Kinematic</b>	未确定 Not determined
挥发性有机化合物含量 <b>VOC content</b>	未确定 Not determined
其他信息: 没有进一步的相关信息可用。 <b>Other information:</b> No further relevant information available.	

## 第十部分 稳定性和反应性 SECTION 10 – STABILITY AND REACTIVITY

反应性: 没有更多的相关信息可用。

**Reactivity:** No further relevant information available.

化学稳定性: 正常条件下稳定。

**Chemical stability:** Stable under normal conditions.

热分解/要避免的情况

**Thermal decomposition / conditions to be avoided:**

按规定使用时不会分解。

No decomposition if used according to specifications.

危险反应的可能性: 没有已知的危险反应。

**Possibility of hazardous reactions:** No dangerous reactions known.

应避免的情况: 无。

**Conditions to avoid:** None.

不兼容的材料: 没有进一步的相关信息。

**Incompatible materials:** No further relevant information available.

危险的分解产物: 未知。

**Hazardous decomposition products:** No dangerous decomposition products known.

## 第十一部分 毒理学信息 SECTION 11 – TOXICOLOGICAL INFORMATION

毒理效应信息：

**Information on toxicological effects:**

急性毒性：

**Acute toxicity:**

主要刺激性作用：

**Primary irritant effect:**

在皮肤上：刺激皮肤。

**On the skin:** Irritant to skin.

在眼睛上：刺激作用。

**On the eye:** Irritating effect.

其他毒理学信息

**Additional toxicological information:**

致癌类别

**Carcinogenic categories:**

·**IARC(国际癌症研究机构 International Agency for Research on Cancer):**

没有列入该物质。

Substance is not listed.

·**NTP(国家毒理学计划 National Toxicology Program):**

没有列入该物质。

Substance is not listed.

·**OSHA-Ca(职业安全健康管理局 Occupational Safety & Health Administration):**

没有列入该物质。

Substance is not listed.

**Summary Information:**

**Effects on Skin and Mucous Membranes:** Glass fiber products may cause mechanical irritation to eyes and skins. Exposures to high concentrations of airborne fibers may result in temporary coughing, nose and throat irritation and sneezing. However, these are not allergic reaction, and the irritation disappears when the exposure ceases. Mechanical irritation is not considered as health hazard in the meaning of European directive 67/548/EC on hazardous substances. The potential for inhaled glass fibers to cause any health hazard depend on its “respirability”, i.e., its possibility of entering the lower regions of the lung.



**对皮肤和黏膜的影响：**玻璃纤维产品可能会对眼睛和皮肤造成物理性刺激，接触空气中高浓度的纤维可能导致暂时性咳嗽，鼻子和喉咙刺激和打喷嚏。然而，这些刺激并不是过敏反应，并且停止接触时刺激会消失。根据欧洲有害物质指令 67/548 / EC 的定义，物理性刺激不被视为健康危害。吸入玻璃纤维引起任何健康危害的可能性取决于其“可吸进性”，即其进入肺下部区域的可能性。

**Respirability:** Continuous filament glass fibers are not respirable according to the definition of World Health Organization (WHO). Respirable fibers have a diameter (d) smaller than  $3\mu\text{m}$ , a length (l) larger than  $5\mu\text{m}$  and a l/d ratio greater than or equal to 3. Continuous filament glass fiber, with diameters greater than 3 microns, do not reach the lower respiratory tract and, therefore have no possibility of causing serious pulmonary disease.

**可吸入性：**根据世界卫生组织（WHO）的定义，连续玻璃纤维为不可吸进物质。可吸进纤维是指直径（d）小于  $3\mu\text{m}$ ，长度（l）大于  $5\mu\text{m}$  且 l / d 之比大于或等于 3 的纤维。连续玻璃纤维直径大于  $3\mu\text{m}$ ，不能到达下呼吸道，因此不可能引起严重的肺部疾病。

**Information on non-Carcinogenicity:** Continuous filament glass fibers are not carcinogenic. Two major historical cohort studies (1975-2001) in the USA and Europe, conducted respectively by the University of Pittsburgh and the International Agency for research on Cancer (IARC), showed no increased risk of respiratory system cancer among workers in the glass fiber manufacturing facility. A smaller study was conducted among manufacturers of fiber glass in Canada with same results. Based significantly on these updated studies, IARC in 2001 concluded that continuous filament glass fibers are not classifiable as to its carcinogenicity to humans (Group 3). A study by Marsh et al. (2011) published in the *Regulatory Toxicology and Pharmacology* verifies that the IARC's decision remains valid in light of the epidemiological evidence reported after 2001.

**非致癌信息：**没有证据证明连续玻璃纤维对人类有致癌性。匹兹堡大学和国际癌症研究署（IARC）分别在美国和欧洲进行的两项主要历史队列研究（1975-2001）显示，在从事玻璃纤维生产的人员中未发现肺癌或恶性呼吸系统疾病的增加。在加拿大的玻璃纤维制造商中进行的一项较小规模的研究也得出了相同的结论。根据这些研究，IARC 于 2001 年在“致癌物质总体评价”中将连续玻璃纤维归入第 3 组，即“不可归为致癌物质”类。Marsh 等人（2011 年）发表在《监管毒理学和药理学》上的研究证实，根据 2001 年后报告的一系列流行病学证据，IARC 在 2001 年的决定仍然有效。

Three relevant post-2001 studies with those of the US, Europe and Canadian cohort studies revealed no consistent evidence of relationship between lung cancer risk and exposure to glass fibers. These studies are inclusive of a community-based, case-control study in the Leningrad Province of Russia, in which 540 cases of lung cancer were identified via autopsy records performed between 1993 and 1998 (Baccarelli et al., 2006); a population based, case-control study involving 2205 male incident lung cancer cases in seven European countries between 1998 and 2002 (Carel et al, 2007); two population based, case-control studies in Canada respectively conducted from 1979 to 1986, and from 1996 to 2001 (Pintos et al., 2008).

2001 之后的三项相关研究结果也显示，肺癌风险与玻璃纤维接触之间没有关联性的证据。这些研究包括，俄罗斯列宁格勒省一项以社区为基础的病例对照研究，涉及 1993 年至 1998 年间基于尸检记录的 540 例肺癌(Baccarelli 等, 2006)；七个欧洲国家的一项基于人群的病例对照研究，涉及 1998 年至 2002 年间的 2205 例男性肺癌病例 (Carel 等, 2007 年)；加拿大蒙特利尔的分别对 1979 年至 1986 年和 1996 年至 2001 年进行的两项基于人群的病例对照研究 (Pintos 等, 2008)。

## 第十二部分 生态学信息 SECTION 12 – ECOLOGICAL INFORMATION

### 毒性 Toxicity:

水生毒性：无更多相关信息。

**Aquatic toxicity:** No further relevant information available.

### 环境系统中的行为

#### Behavior in environmental systems:

生物积累潜在可能性：没有进一步的相关信息可用。

**Bioaccumulative potential:** No further relevant information available.

土壤中的迁移：没有更多的相关信息可用。

**Mobility in soil:** No further relevant information available.

### 其他的生态信息

#### Additional ecological information:

一般注意事项：对水的危害未知。

**General notes:** Not known to be hazardous to water.

### PBT 和 vPvB 评估的结果

#### Results of PBT and vPvB assessment:

**PBT:** 不适用。

**PBT:** Not applicable.

**vPvB:** 不适用。

**vPvB:** Not applicable.

其他不利影响：无相关信息

**Other adverse effects:** No further relevant information available

## 第十三部分 废弃处理 SECTION 13 – DISPOSAL CONSIDERATIONS

《资源保护和回收法案》(RCRA) 危害分类：无危害。

**RCRA Hazard Class:** Non-Hazardous.

欧洲废弃物编号为 101103。

European code number for waste is 101103.

#### 废弃注意事项

#### **Waste treatment methods:**

**推荐:** 处置废弃物应根据当地的保护环境规则。

**Recommendation:** Dispose waste materials as per local environmental regulations.

未清洁的包装

#### **Uncleaned packagings**

**建议:** 必须按照官方规定进行处理。

**Recommendation:** Disposal must be made according to official regulations.

## 第十四部分 运输信息 SECTION 14 – TRANSPORT INFORMATION

**联合国编号 UN-Number:**

**DOT, ADR / AND, AND, IMDG, IATA:** 无规定 Non-Regulated Material

**联合国正式运输名称 UN proper shipping name:**

**DOT, ADR/ADN, AND, IMDG, IATA:** 无规定 Non-Regulated Material

**运输危险等级 Transport hazard class(es):** DOT, ADR/ADN, ADN, IMDG, IATA

**类别:** 非规定材料

**Class:** Non-Regulated Material

**包装类别 Packing group:**

**DOT, ADR/ADN, IMDG, IATA:** 无规定 Non-Regulated Material

**环境危害:** 不适用

**Environmental hazards:** Not applicable.

**用户的特殊预防措施:** 不适用。

**Special precautions for user:** Not applicable.

**根据 MARPOL73 / 78 附录 II 和 IBC 规则散装运输:** 不适用。

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.

联合国“示范条例”：无规定。

**UN "Model Regulation":** Non-Regulated Material.

**运输注意事项：**运输中应避免翻滚，受潮。

**Transport instructions:** Rolling and moisture should be avoided in transit.

## 第十五部分 法规信息 SECTION 15 – REGULATORY INFORMATION

有关物质或混合物的特定安全，健康和环境条例：

**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

**SARA(非常基金修正及再授权法 Superfund Amendments and Reauthorization):**

第 355 节（极其有害物质）

**Section 355 (extremely hazardous substances):**

没有列入该物质。

Substance is not listed.

第 313 节（特定有毒化学品目录）：

**Section 313 (Specific toxic chemical listings):**

没有列入该物质。

Substance is not listed.

**TSCA（有毒物质控制法案）**

**TSCA (Toxic Substances Control Act):**

没有列入该物质。

Substance is not listed.

**加利福尼亚州提案 65**

**California Proposition 65:**

导致癌症的已知化学物质

**Chemicals known to cause cancer:**

没有列入该物质。

Substance is not listed.

对女性造成生殖毒性的已知化学物质

**Chemicals known to cause reproductive toxicity for females:**

没有列入该物质。

Substance is not listed.

对男性造成生殖毒性的已知化学物质

**Chemicals known to cause reproductive toxicity for males:**

没有列入该物质。

Substance is not listed.

导致发育毒性的已知化学物质

**Chemicals known to cause developmental toxicity:**

没有列入该物质。

Substance is not listed.

新泽西州的知情权清单

**New Jersey Right-to-Know List:**

没有列入该物质。

Substance is not listed.

新泽西州的特殊有害物质清单

**New Jersey Special Hazardous Substance List:**

没有列入该物质。

Substance is not listed.

宾夕法尼亚州的知情权清单

**Pennsylvania Right-to-Know List:**

没有列入该物质。

Substance is not listed.

宾夕法尼亚州的特殊有害物质清单

**Pennsylvania Special Hazardous Substance List:**

没有列入该物质。

Substance is not listed.

致癌类别

**Carcinogenic categories:**

**EPA(环保局 Environmental Protection Agency):**

没有列入该物质。

Substance is not listed.

**TLV(ACGIH 制定的阈值 Threshold Limit Value established by ACGIH):**

没有列入该物质。

Substance is not listed.

**NIOSH-Ca(国家职业安全与健康研究所 National Institute for Occupational Safety and Health):**

没有列入该物质。

Substance is not listed.

**化学安全评估**

**Chemical safety assessment:**

化学安全评估尚未进行。

A Chemical Safety Assessment has not been carried out.

**国家化学品目录:**

**National Chemicals Inventory**

基于巨石产品生产所在国家对化学品销售和使用的强制规定，涂有处理剂的玻璃纤维产品所含的每一种化学成分应列在产品生产国的国家化学品目录上。

Based on the rules enforced with regards to the marketing and use of chemicals in countries where our Jushi products are manufactured, each chemical ingredient of these finished products has to be listed on the National Chemicals Inventory of the specific country where the products are produced.

连续玻璃纤维产品在下列国家化学品目录上是一种物品 (articles)，在以下这些目录上未列出相关信息：

Continuous glass fiber products are “articles” and exempt from the chemicals inventories listed below:

- 欧洲已存在商业化学物品目录：EINECS

The European Inventory of Existing Commercial Chemical Substances: EINECS,

- 美国 EPA 有毒物质控制法案：TSCA

The US EPA Toxic Substance Control Act: TSCA,

- 加拿大国内物质清单：DSL

The Canada Domestic Substances List: DSL,

- 日本化学物质控制法：CSCL

The Japanese Chemical Substances Control Law under METI: CSCL,

- 澳大利亚化学物质目录：AICS

The Australian Inventory of Chemical Substances: AICS,

- 新西兰化学品名录：NzloC

New Zealand Inventory of Chemicals: NzloC,

- 菲律宾化学品和化学物质目录：PICCS

- The Philippine Inventory of Chemicals and Chemical Substances: PICCS,  
 - 韩国现有化学品清单: (K)ECL  
 The Korean Existing Chemicals List: (K) ECL and  
 - 中国现有化学物质名录: IECSC  
 Inventory of Existing Chemical Substances Produced or Imported in China: IECSC.

## 第十六部分 其他资料 SECTION 16 – OTHER INFORMATION

据我们所知，本安全数据表中的信息和建议在发布之日是准确的。本文中的任何内容均不得视为构成保证、明示或暗示，并且不得建立合法有效的合同关系。用户有责任确定此信息的适用性以及材料或产品是否适合任何特定用途。

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

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**Date of preparation / last revision:**16/11/2017 / 6

### 缩略语和首字母缩略词: **Abbreviations and acronyms:**

ADR: “欧洲国际危险货物运输协定”

The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: “欧洲国际内河运输危险货物协定”

The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: 国际海事危险货物规则

International Maritime Code for Dangerous Goods

DOT: 美国运输部

US Department of Transportation

IATA: 国际航空运输协会

International Air Transport Association

ACGIH: 美国政府工业卫生学家会议

American Conference of Governmental Industrial Hygienists

CAS: 化学文摘社 (美国化学学会分部)

Chemical Abstracts Service (division of the American Chemical Society)

NFPA: 美国国家消防协会

National Fire Protection Association (USA)

HMIS: 危险材料识别系统 (美国)

Hazardous Materials Identification System (USA)

PBT: 持久性, 生物累积性和毒性

Persistent, Bioaccumulative and Toxic

vPvB: 非常持久且非常具有生物累积性

very Persistent and very Bioaccumulative

NIOSH: 国家职业安全与健康研究所

National Institute for Occupational Safety and Health

OSHA: 职业安全与健康管理局

Occupational Safety & Health Administration

TLV: 阈值限制值

Threshold Limit Value

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