



# Time Capsule<sup>®</sup>

Healthy Volcanic Mud Yarn

Annie's

Annie's Smartex Co., Ltd  
巧兰(上海)纺织科技有限公司

## Innovation Shapes The Future

**01-03** Where does volcanic mud come from?

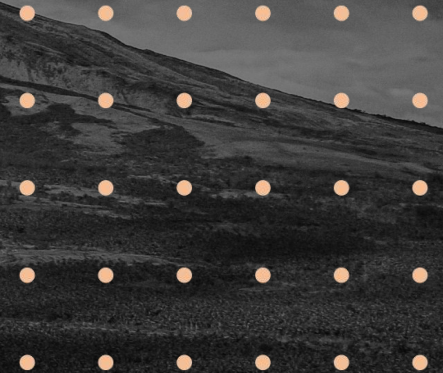
**04-06** The application of volcanic mud

**07-08** Adsorption Principle

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# Where does volcanic mud come from?

Volcanic mud is the product of volcanoes. The main components are gray-white, dark-gray to black non-sticky mud. Volcanic mud and ash are different. **Our raw material--powders are extracted from Mount St. Helens in USA.**

Volcanic mud has many functions, besides the traditional metallurgical and chemical uses. Nowadays, in the field of medical physiotherapy and wall materials, the role of volcanic mud has been gradually developed and widely welcomed.

01





## Where does volcanic mud come from?

Volcanic mud contains many micro-elements and minerals, such as silicon, aluminium, magnesium, calcium, iron, titanium, sulfur, phosphorus, sodium, copper, zinc, selenium, cobalt, manganese, molybdenum and so on. These components make the physical properties of volcanic mud very stable and widely used in various fields.

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• • Where does  
• • volcanic mud  
• • come from?

Volcanic mud, is mainly distributed in the shallow and deep seas around submarine volcanoes and volcanic islands. Layered structures (volcanic ash beds) commonly found in borehole cores can be used for horizon correlation.

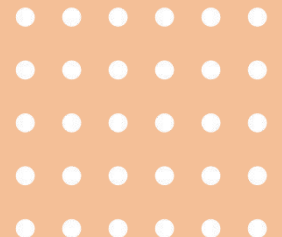
03



# 04

## The application of volcanic mud

In addition to the traditional metallurgical and chemical uses of volcanic mud. Nowadays, in the field of medical physiotherapy and wall materials, the role of volcanic mud has been gradually developed and widely welcomed. Westerners like to apply the treated volcanic mud on their faces, which has the effect of whitening and beauty.



## The Application of volcanic mud

In addition Volcanic mud beauty, volcanic mud can also treat a variety of diseases. Apply it on the wall to purify the air. The ancients smeared volcanic mud on clothing interlayer, often wearing it can strengthen muscles and bones, prevent rheumatism and other diseases. Now Westerners like to do volcanic mud baths. Because many components of volcanic mud infiltrate into human body, it has a very good effect on relieving fatigue, reducing pressure and relieving pain.



## The application of volcanic mud

Strong adsorption effect  
Volcanic mud solidified from ash after volcanic eruption has strong sebum absorption capacity, which is close to traditional pore cleaning raw materials such as charcoal, loess and sea mud. The amazing effect of volcanic mud depends on the principle of sebum and dirt adsorption on the skin. A chemical method of sucking dirt out of the skin by using the mutual attraction of anions and cations carried by different substances.





# Adsorption Principle

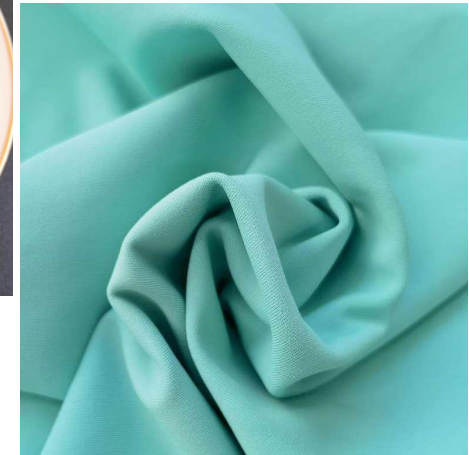
Volcanic mud corresponds to this principle. After dissolving in water, it carries positive or negative charges, thus adsorbing the same charged sebum dirt. From a physical point of view, like the magnets of the Antarctic and the Arctic, there is a strong attraction between them. When mud meets sebum, there is also an adsorptive force that is not easy to separate.



Extract Volcanic mud



Dry&Grind into nano size of powders



Make into MB&yarns& fabrics



## Adsorption Principle

Volcanic mud has more pores than charcoal in terms of physical adsorption. The pore area of 1G charcoal is similar to that of a tennis court, and the pore area of volcanic mud is even more unimaginable.

The physical adsorption capacity is proportional to the surface area of the material, so it can be concluded that the adsorption capacity of volcanic mud is stronger than that of charcoal.

In addition, volcanic mud is rich in potassium, sodium and a variety of natural mineral ingredients, showing excellent moisturizing, elastic and sedative soothing effect.



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- • • • •

- • • The application in
- • • textile Industry

The natural rare mineral elements will help skin coruscate new born, from inside to outside is clear , bright and shine.

09



10



## The application in textile Industry

Volcanic mud fiber has good mechanical properties, emit high emissivity of Far Infrared Ray, high moisture absorption and antimicrobial properties, Especially we have tested the function of anti-propionibacterium



# Functional Tips

Volcanic mud textiles, with special characteristics of many elements, have beneficial physiological effects on the human body and their chemical stability, will not change or deteriorate in time. Volcanic mud is non-toxic, non-allergic and quite safe. Because it will benefit the body's electric current and relieve muscle tension, it is very suitable for the use of physical health care.



Permanent antibacterials



Skin-care



Energy circulation



Thermal regulation



Contains more than 36 traceable mineral elements

11



**SGS**

**Test Report**    No. SHSL1305112558TX    Date: Jun 04, 2013    Page 1 of 2

SHANGHAI QIANMAO TEXTILE SCIENCE AND TECHNOLOGY CO., LTD  
ROOM 401, NO.463 DANGJUI NANYUAN, HANGBEI ROAD, MINHANG DISTRICT, SHANGHAI

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description : Knitted fabric: 100%polyester mesh in grey for underwear  
Style No. : JS042

Test Performed : Selected test(s) as requested by applicant

Sample Receiving Date : May 21, 2013  
Testing Period : May 22, 2013 TO Jun 04, 2013  
Test Result(s) : For further details, please refer to the following page(s).

Signed for and on behalf of  
SGS-CSTC Ltd.  
*Tina Xi*

Tina Xi  
Account Executive

Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-21)31891743, or email: CN.Inspect@sgs.com

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**SHSL 3138917**

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**SGS**

**Test Report**    No. SHSL1305112558TX    Date: Jun 04, 2013    Page 2 of 2

**Test Result**

**\*Deodorization Test (Gas Detecting Tube)**

Time (hours)	Reduction rate (%)
2	53
8	60

Note:  
Reduction rate (%) =  $100\% \times (\text{Concentration of blank sample after a specified time} - \text{Concentration of specimen after a specified time}) / \text{Concentration of blank sample after a specified time}$

Remark:  
Deodorization functionality

Size of test sample : 10 cm x 10 cm  
Initial concentration of odor gas : Ammonia 100 ppm  
Measurement method : Gas Detecting Tube  
Room temperature : 20°C  
Condition : Dark room  
Control : Testing conducted without a sample

\* This test was carried out by SGS HK textile lab.

\*\*\* End of Report \*\*\*

Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-21)31891743, or email: CN.Inspect@sgs.com

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## Deodorization Test Report



## TEST REPORT (Electronic version)



No:190205871

VERIFICATION WEBSITE: [www.gttc.net.cn](http://www.gttc.net.cn)

VERIFICATION CODE: GDEA-0541-13

DATE:2019-08-01



APPLICANT: SHANGHAI CAREMORE TEXTILE TECHNOLOGY CO.,LTD.  
ROOM702, 25 BUILDING, WAN XIN INTERNATIONAL CENTER NO.8633 ZHONG CHUN ROAD,  
DIST. MINHANG, SHANGHAI. CHINA

ONE(1) BAG OF VOLCANIC MUD FIBER(1.2D)

COLOR: LIGHT KHAKI

INGREDIENTS OF FIBRE: 100%ACRYLIC

MANUFACTURE'S NAME: SHANGHAI RELLY TEXTILE CO.,LTD.

DATE RECEIVED/DATE TEST STARTED: 2019-07-22 12:00

CONCLUSION:

ANTIMICROBIAL ACTIVITY[GB/T 20944.3-2008] M

ANTIMICROBIAL ACTIVITY[GB/T 20944.2-2007] ---

NOTE: "M" -MEET CLIENT'S REQUIREMENT "F" -BELOW CLIENT'S REQUIREMENT  
"---" -NO COMMENT "N" -HALF GRADE LOW "L" -ONE GRADE LOW

REMARK:

IN THIS REPORT, THE SAMPLES ARE TESTED UNDER PRESCRIBED ENVIRONMENTAL CONDITIONS IN THE CORRESPONDING STANDARDS UNLESS OTHERWISE NOTED.  
COPIES OF THE REPORT ARE VALID ONLY RE-STAMPED.  
THE EXPERIMENT WAS CARRIED OUT AT No.1-2, ZHUJIANG ROAD, CHAOTIAN INDUSTRIAL ZONE, SHILOU, PANYU DISTRICT, GUANGZHOU.

AUTHORIZED SIGNATORY:

Nan Ma ENGINEER

马楠

page 1 of 2

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海珠工作站: 广州市海珠区滨江中路单旁街35号之二

电话:020-61994598/61994599  
电话:020-37721161  
电话:020-34402327



## TEST REPORT (Electronic version)

No:190205871

ANTIMICROBIAL ACTIVITY[GB/T 20944.3-2008]  
(GB/T 20944.3-2008, SHAKE FLASK METHOD)

INHIBITION:	REQUIREMENT
STAPHYLOCOCCUS AUREUS 93%	INHIBITION: STAPHYLOCOCCUS AUREUS ≥70%
COLON BACILLUS 91%	COLON BACILLUS ≥70%
CANDIDA ALBICANS 99%	CANDIDA ALBICANS ≥60%
HAVE ANTIMICROBIAL ACTIVITY	(GB/T 20944.3-2008)

ANTIMICROBIAL ACTIVITY[GB/T 20944.2-2007]

(GB/T 20944.2-2007, ABSORPTION METHOD, CONTACT TIME:18h)  
PROPIONIBACTERIUM:  
INHIBITION 95%  
HAVE ANTIMICROBIAL ACTIVITY

—End of Report—

page 2 of 2

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电话:020-34402327

# Antibacterial Tests Including Propionibacterium





<b>TESTING REPORT</b>		Report security check web: <a href="http://www.fcl-sz.org.cn">www.fcl-sz.org.cn</a> Security code:0774088114	
Report No. ZFLJ30290825		Page 3 of 4	
Requirements(评定条件)	Test Result(测试结果)	Judgement(判定)	
<b>[Before washing (洗前)]</b>			
The following items according to GB/T 30127-2013 General sample (以下项目按 GB/T 30127-2013 一般样品 判定)			
<b>1. Far infrared radiation properties(远红外性能) GB/T 30127-2013</b>			
Far infrared emissivity(远红外发射率) ≥ 0.88	Far infrared emissivity(远红外发射率) 0.90	Pass 合格	
Far infrared radiation temperature rise (远红外辐射温升值)(°C) ≥ 1.4	Far infrared radiation temperature rise(远红外辐射温升值) 2.1°C		

## Far infrared Ray Emission & Raising Temperature

## Summary – Semiquantitative Analysis

Unit – ppm, ug/g												
	B	Na	Mg	Al	Si	K	Ca	Sc	Ti	V	Cr	Mn
	11	23	24	27	28	39	43	45	47	51	52	55
healthy volcanic mud	0.75	81.8	6.25	50.5	5523	35.3	25.6	0.04	7.96	0.05	1.25	9.06

Unit – ppm, ug/g												
	Fe	Co	Ni	Cu	Zn	Ga	Ge	Se	Rb	Sr	Zr	Nb
	56	59	60	63	66	69	72	78	85	88	90	93
healthy volcanic mud	44.8	0.06	0.33	9.86	387	0.08	0.39	21.6	0.03	0.56	0.19	0.23

Unit – ppm, ug/g											
	Ru	Ag	In	Sn	Sb	Ba	Ce	Ir	Pt	Pb	U
	101	107	115	118	121	137	140	193	195	208	238
healthy volcanic mud	0.28	0.23	0.03	0.38	65.8	0.73	0.79	0.02	0.01	1.20	0.29

## Appendix-ICP-MS MDL

Element	Mass	ppm, ug/g	Element	Mass	ppm, ug/g	Element	Mass	ppm, ug/g
Li	7	0.03	Rb	85	0.02	Gd	157	0.02
Be	9	0.03	Sr	88	0.02	Tb	159	0.02
B	11	0.32	Y	89	0.02	Dy	163	0.02
Na	23	0.16	Zr	90	0.02	Ho	165	0.02
Mg	24	0.03	Nb	93	0.02	Er	166	0.02
Al	27	0.03	Mo	95	0.06	Tm	169	0.02
Si	28	16.1	Ru	101	0.02	Yb	172	0.02
K	39	8.05	Rh	103	0.02	Lu	175	0.02
Ca	43	8.05	Pd	105	0.02	Hf	178	0.02
Sc	45	0.02	Ag	107	0.06	Ta	181	0.03
Ti	47	0.03	Cd	111	0.02	W	182	0.03
V	51	0.02	In	115	0.02	Re	185	0.02
Cr	52	0.02	Sn	118	0.02	Os	189	0.02
Mn	55	0.02	Sb	121	0.02	Ir	193	0.02
Fe	56	0.06	Te	125	0.06	Pt	195	0.01
Co	59	0.02	Cs	133	0.02	Au	197	0.02
Ni	60	0.02	Ba	137	0.02	Hg	202	0.02
Cu	63	0.02	La	139	0.02	Tl	205	0.02
Zn	66	0.02	Ce	140	0.02	Pb	208	0.02
Ga	69	0.02	Pr	141	0.02	Bi	209	0.02
Ge	72	0.02	Nd	146	0.02	Th	232	0.02
As	75	0.03	Sm	147	0.02	U	238	0.003
Se	78	0.32	Eu	153	0.02			



# Volcanic Mud Fiber Minerals Content Test

## 检验报告



CKTC-WT19034532A

第1页 共1页

客户 提供 信息	委托单位				检验类别	委托检验
	生产单位				来样日期	2019-05-23
	样品名称	火山矿物元素纱面料	规格型号	---	样品等级	---
	样品数量	面料1.0米X1.0米1块			委托人	---
	商标	-----	来样状态	外观正常, 无明显缺陷		
	货号	B11143				
	执行标准	GB/T 30127-2013 纺织品 远红外性能的检测和评价				
样品描述	far infrared ray emissivity rate					检测结果
检测项目	♥	单位	标准值	实测值	评价	方法标准
远红外发射率	洗前	---	≥0.88	0.93	符合	GB/T 30127-2013
远红外辐射升温值	洗前	℃	≥1.4	1.4	符合	GB/T 30127-2013
(以下空白)						
						
						
签发日期	2019-05-25		检验单位盖章		样品粘贴处	
备注	本报告为CKTC-WT19034532更改报告, 原报告CKTC-WT19034532作废。					

批准:  审核:  编制: 

## Volcanic Mud Fiber-FIR&Temperature Raising



# Product Series

Polyester Basis Filament

Recycled Polyester Basis Filament

Recycled Polyester Basis Staple Fiber

Acrylic Basis Staple Fiber

Nylon Basis Filament

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**More Innovation Come From Your Inspirations**

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Annie's

Annie's Smartex Co., Ltd  
巧兰(上海)纺织科技有限公司

T H A N K Y O U

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