

# MEDICAL EXAMINATION NITRILE GLOVE

KG-1101





# You're protected.

Our gloves will be manufactured through rigorous tests based on the corresponding regulations. We will ensure the demand and protection in accordance with the highest quality standards.

KINGFA has a daily production capacity of 1,000,000 units per line. At the end of 2021, KINGFA will have 96 functional production lines, reaching a total daily production capacity of over 100,000,000 units.





## **Serves Worldwide**



## United States

Canton, Michigan

# India

Chennai

# China

Konggang, Tianjin Mianyang, Sichuan Chengdu, Sichuan Wuhan, Hubei Kunshan, Jiangsu

# **Q** Germany

Wiesbaden

# Malaysia

Kuala Lumpur

Qinpu, Shanghai Ningbo, Zhejiang Qingyuan, Guangdong Guangzhou, Guangdong Zhuhai, Guangdong

## In House Production



Personalized Service and 24/7 Online Tracking System

## Increased Efficiency



Raw Material Supply Chain Management & Control

# Short Leadtime



Overseas Distribution Centers

## Risk Control & Management



SGS Inspection and Quality Control



# Focus on supplier management, new products development and quality control.



Kingfa makes full use of its own technology accumulated in the modified plastics industry for many years. With the experience and advantages of process control and test certifications, we have successfully developed nitrile gloves with excellent physical properties, tactile sensitivity, chemical resistance and virus resistance, which can provide effective protection for people.

## MODEL:KG-1101

## **PRODUCT INFORMATION**

Material		100% Nitrile		
Color		Blue		
Cuff length	I	Standard		
Glove leng	th(mm/inches) min	240 / 9.5		
Powder co	ntent	Powder-Free		
External gl	ove surface	Textured Finger		
Freedom from	n holes(Inspection level I)	1.5 AQL		
Palm thick	ness (mm/mil)	≥ 0.05 / 2.0		
Finger thic	kness (mm/mil)	≥ 0.08 / 3.1		
Breakage f	orce	≥ 6N		
Tensile stre	ength	≥ 14 Mpa		
Elongation		≥ 500%		
Application	n Temperature	≤ 70°C		
Size	Median Length(mm)	Median Width(mm)		
S	≥ 240	80±10		
М	≥ 240	95±10		
L	≥ 240	110±10		
XL	≥ 240	≥ 110		

## **INTENDED USE**

The nitrile examination gloves are intended to be worn on the hands of healthcare personnel to prevent contamination between patients and examiners.This is a single-use,powder-free,non-sterile device.

## **FEATURES**

- 1. Excellent mechanical strength provides a high level of hand protection.
- 2. Textured in finger tips for a secure grip.
- 3. Protection against bacteria and fungi.
- 4. Skin irritation&sensitization tested.



## STANDARDS AND CERTIFICATIONS

FDA Premarket Notifications[510(K)]: ASTM D6319 CE Certificate:

EN 455 part 1/2/3/4 EN 374 part 1/2/3/4/5

## REGULATROY COMPLIANCE

## MANUFACTURING ACCREDITATIONS

ISO/IEC 17025 State Accredited Laboratory ISO 9001:2008 Quality Management System Certification ISO 13485 Medical Device Quality Management System OHSAS 18001 Occupational Health and Safety Management ISO 14001 Environmental Management System IECQ QC080000:2012 Process Management System for Hazardous Substances

21 U.S.C. ch.9 MDD 93/42/EEC REACH EU 2016/425 EC 10/011 EC 1935/2004

## **TEST REPORT**

FDA 510K

A U.S. FO	OD & DRU	JG		Follow FDA	En Español SEARCH
ome Food [	Orugs Medical	Devices Radiation-Emitting P	roducts Vaccines, Blood & Biologics	Animal & Veterinary	Cosmetics Tobacco Products
	Medical Devices	Notification © Databases   DeNovo   Registration & Listing	Adverse Events   Recalls   PMA   H	DE   Classification   St	andards
SuperSearc	New Search	CFR Hue 21   Radiation-Emitting	Products   X-Ray Assembler   Medsun F		earch Results
		Device Classification Name	Polymer Patient Examination Glove		
		510(K) Number	K203593		
		Device Name	Patient Examination Gloves		
		Applicant	Guang Dong Kingfa SCI. & TECH.CO., LT No. 28 Delong Ave., Shijiao Town, Qingch Qingyuan, CN 511545		
		Applicant Contact	Xiaoge Yu		
		Correspondent	Landlink Healthcare Technology (Shangha Room 703, 705, Baohua International Pla Road 555, Jingan Shanghai, CN 200071		
		Correspondent Contact	Shelley Li		
		Regulation Number	880.6250		
		Classification Product Code	LZA		
		Date Received	12/09/2020		
		Decision Date	03/19/2021		
		Decision	Substantially Equivalent (SESE)		
		Regulation Medical Specialty			
		510k Review Panel	General Hospital		
		Туре	Traditional		
		Reviewed By Third Party Combination Product	No		

Page Last Updated: 03/15/2021 Note: If you need help accessing information in different file formats, see Instructions for Downloading Viewers and Players. Language Assistance Available: Español | 繁體中文 | Tiếng Việt | 한국어 | Tagalog | Русский | تحريب ا Kreyòl Ayisyen | Français | Polski | Português | Italiano | Deutsch | 日本語 | فرسی ا | English

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| English

Accessibility Contact FDA Careers FDA Basics FOIA No FEAR Act Nondiscrimination Website Policies / Privacy





## TEST REPORT

**ASTM D6319** 



GUANGDONG KINGFA SCI.&TECH.CO.,LTD. NO.28 DELONG AVENUE, SHIJIAO TOWN, QINGCHENG DISTRICT, QINGYUAN CITY, **GUANGDONG PROVINCE, CHINA** XIAOGE YU Attn:

Sample Description:

intertek

Total Quality. Assured.

TEST REPORT

Applicant:

Three Hundred (300) pieces of submitted samples said to be Nitrile examination gloves in Blue ASTM D6319-19 Standard : Ref. No. KG-1101 ÷ P.O. No. 25007036 : Colors : Blue Size Range KG-1101 M : Palm Nitrile 5 Back Nitrile Cuff Nitrile • Cuff Binding : Nitrile Lining Nitrile Date Received/Date Test Started: Nov 13, 2020/--Date Final Information Confirmed/ Nov 26, 2020/--Date Payment Received:

Test Result Please Refer To Attached Page(S).

Should you have any query on this report, you may contact at gzfootwear@intertek.com

Authorized By: For Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

**Guiliang Dong** Senior Lab Manager

er / lynnyang

Page 1 Of 6

Intertek Testing Services Shenhen Itd, Quangzhou Branch 深圳天祥质量技术服务存取公司行动公司 /E301/E401/E501/E601/E701/E8019 3/F., Tenggun Building, 235 Kaifa Ave., Guangzhou 3/F., Tenggun Building, 235 Kaifa Ave., Guangzhou, CETED Guangzhou, Guangging China Economic & Technological Development District, Guangzhou, Room 02, 1-8/F. & Room 01, E101/E201/E301/E401/E501/E601/E701/E801 Economic & China No.7-2, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, Guangdong, China 广州经济技术开发区科学城彩频路7号之二第1-8层02房、01房101、 E201、E301、E401、E501、E601、E701、E801 朝 齐技开发区开发大道 235 号恒运大厦 3 楼 +86 20 83966868 Fax: +86 20 82228169 Postcode: 510730 Tel: +86 208213 9001 Fax: +86 20 82089909 Postcode: 510663 6







Total Quality. Assured. <u>TEST REPORT</u> Tests Conducted (As Requested By The Applicant)

#### 1 Freedom From Holes (ASTM D6319-19, 7.3 & ASTM D5151-19)

Results			Requir	Pass/Fail		
Physical Performance	Failure	AQL	Physical Performance	AQL	n [Ac Re]	-
No Leakage	0	< 2.5	No Leakage	2.5	200 (10 11)	Pass

Remark: n Means Sample Size, Ac Means Acceptance Number, Re Means Rejection Number.

#### 2 Physical Dimensions (ASTM D6319-19, 7.4 & ASTM D3767-03 (2020))

Results			Requirement	Pass/Fail		
Physical Performance	Failure	AQL	Physical Performance	AQL	n [Ac Re]	-
See Test Data	0	< 4.0	Size: M Width: (95±10) mm Length: Min. 230 mm Finger Thickness: Min. 0.05 mm Palm Thickness: Min. 0.05 mm	4.0	13 (1 2)	Pass

Test Data:

Size	Specimen	Width (mm)	Length (mm)	Finger Thickness (mm)	Palm Thickness (mm)
М	1	96	247	0.12	0.11
	2	95	250	0.12	0.11
	3	97	253	0.12	0.11
	4	96	253	0.12	0.11
	5	95	252	0.12	0.11
	6	96	250	0.12	0.11
	7	97	250	0.12	0.11
	8	97	253	0.12	0.11
	9	95	250	0.12	0.11
	10	98	250	0.12	0.11
	11	95	249	0.12	0.11
	12	98	248	0.12	0.11
	13	96	252	0.12	0.11

Remark: n Means Sample Size, Ac Means Acceptance Number, Re Means Rejection Number.







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3 Package Marking (ASTM D6319-19, 9.3)

	Requirements	Pass	Fail	N/A
9.3.1	Sterile Packages Shall Bear Markings For The Contents To Include The Glove Size, Instructions For Opening, The Legend "Sterile," And A Manufacturing Lot Number.			x
9.3.2	Nonsterile And Bulk Packages Shall Bear Markings For The Contents To Include The Glove Size And A Manufacturing Lot Number.	x		
9.3.3	The Outermost Case Shall Be Labeled With The Glove Size And A Manufacturing Lot Number. Sterile Product Cases Shall Also Be Marked With The Legend "Sterile."	x	×.	
9 <mark>.3.</mark> 4	All Levels Of Packaging Shall Conform To All Appropriate Government Labeling Regulations.	x		

Compliance: The Submitted Sample MEETS The Requirements Of ASTM D6319-19 Clause 9.3 For Package Marking.

#### 4 Powder Residue For Powder Free Gloves (ASTM D6319-19, 7.6 & ASTM D6124-06 (2017))

Ē	Size	Result	Requirement	Pass/Fail
	М	0.8 mg	Max. 2.0 mg	Pass









TEST REPORT Tests Conducted (As Requested By The Applicant)

### 5 Physical Requirements Before Aging (ASTM D6319-19, 7.5 & ASTM D412-16)

Results			Requirement			Pass/Fail
Physical Performance	Failure	AQL	Physical Performance	AQL	n [Ac Re]	-
See Test Data	0	< 4.0	Tensile Strength Min. 14 Mpa Ultimate Elongation Min. 500%	4.0	13 (1 2)	Pass

#### Test Data:

Condition	Sample	Res	sults
Condition	Sample	Tensile Strength (MPa)	Ultimate Elongation (%)
Before Aging	1	30.6	600
	2	29.1	588
	3	27.0	564
	4	31.9	596
	5	29.9	556
	6	29.7	580
	7	29.9	568
	8	29.8	560
	9	28.0	592
	10	29.8	568
	11	28.6	560
	12	29.6	552
	13	27.3	556

Remark: n Means Sample Size, Ac Means Acceptance Number, Re Means Rejection Number.









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6 Physical Requirements After Accelerated Aging (ASTM D6319-19, 7.5 & ASTM D412-16 & ASTM D573-04 (2019))

Results			Requirement			Pass/Fail
Physical Performance	Failure	AQL	Physical Performance	AQL	n [Ac Re]	0 <b>2</b> 0
See Test Data	0	< 4.0	Tensile Strength Min. 14 Mpa Ultimate Elongation Min. 400%	4.0	13 (1 2)	Pass

Test Data:

Condition	Comple	Results				
Condition	Sample	Tensile Strength (MPa)	Ultimate Elongation (%)			
After Accelerated	1	26.2	524			
Aging	2	28.4	500			
(70°C For 166 h)	3	27.1	492			
	4	24.4	500			
	5	28.5	512			
	6	27.8	504			
	7	30.9	544			
	8	30.1	580			
	9	27.4	512			
	10	36.7	516			
	11	37.2	516			
	12	32.1	516			
	13	28.7	488			

Remark: n Means Sample Size, Ac Means Acceptance Number, Re Means Rejection Number.







Tests Conducted (As Requested By The Applicant)

TEST REPORT



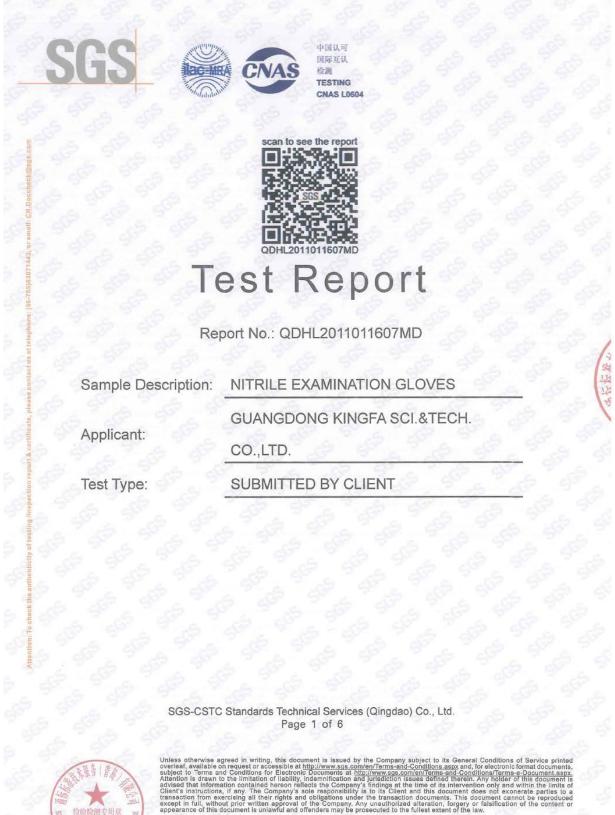
End Of Report

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## **TEST REPORT**

EN 455 1-4





测专用章

<u>SGS</u>	"The Cold de la	中國认同 國际重型 检测 TESTIN CNAS L			
Report No.:	QDHL2011011607MD				
		Test Repo	rt		
50 - 50 50 - 50 50 - 50	Sample Description	NITRILE EXAMINATION GLOVES	Color	BLUE	
	Received sample quantity/ Tested sample quantity	220PCS/ 200PCS	Type/Specifications	KG-1101 M	
Sample information	Lot No.	NOT PROVIDED	Lot Quantity	NOT PROVIDED	
	Manufacture Date	NOT PROVIDED	Expiration Date	NOT PROVIDED	
	Material/Appearance	NITRILE	Storage Condition	NOT PROVIDED	
	Manufacturer	NOT PROVIDED			
Client	Applicant	GUANGDONG KINGFA SCI.&TECH. CO.,LTD.			
information	Applicant address	NO.28 DELONG	AVENUE, SHIJIAO TOV JAN CITY, GUANGDONG	WN, QINGCHENG G PROVINCE, CHINA	

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QD

# KINGFA MEDICAL

中国认可 国际互认 检测 TESTING CNAS L0604 Report No.: QDHL2011011607MD Sample Receiving NOV.02,2020 TO NOV.02,2020 Test Period Date NOV.17,2020 Date QDHL2011011607MD Sample No. Test environment Meet requirement (SL920193013395FW) Test information Test items Water tightness test EN 455-1:2000 Medical Gloves for Single Use - Part 1: **Testing Accordance** Requirements and Testing for Freedom from Holes Clause 5.1 This report only provides the test results and individual judgment, conclusion please see Test follow pages. conclusion Issue date: NOV.17,2020 Remark 1 Ellian Deas Terrian George Auditor: Jessiabers Compiler: Approver: Date: 2020.11117 Date: 2020.11.1 Date: 2020.11.1

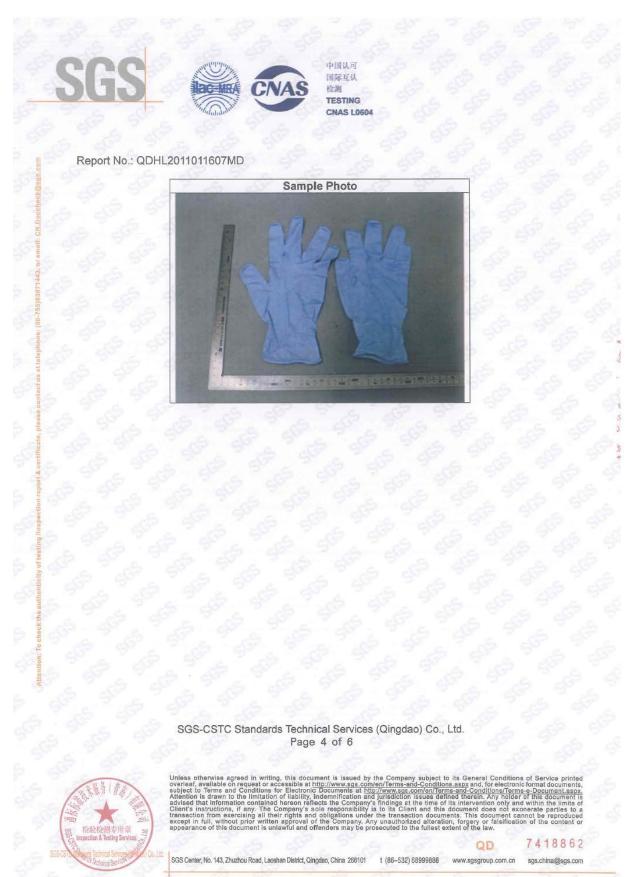
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Report No.: QDHL2011011607MD

## **Test Results**

Test Items	Unit	Test Method	Requirement	Test Result	Assessment
Water tightness test		EN455-1: 2000 Clause 5.1	Sample quantity: 200pcs AQL: 1.5 Ac: 7 Re: 8	Found: 0	Pass

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

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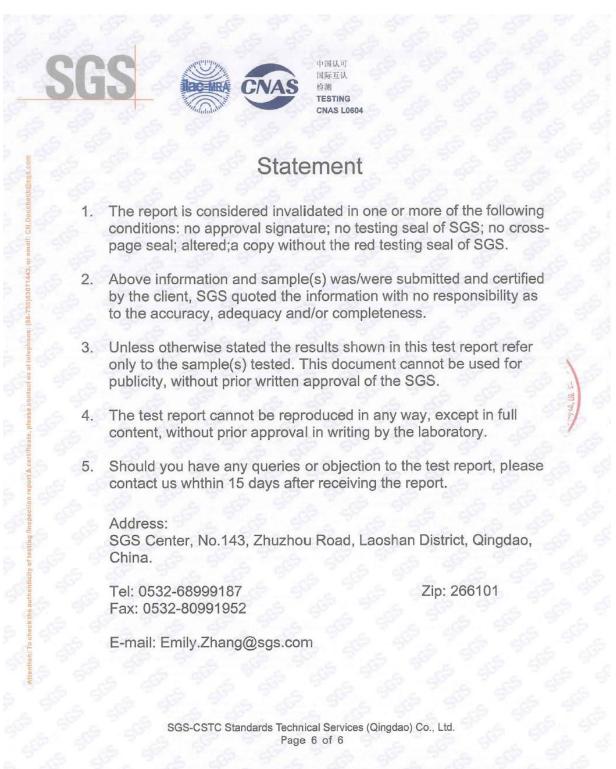
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7418864





中国认同



# Test Report

Report No.: QDHL2011011608MD

Sample Description: NITRILE

NITRILE EXAMINATION GLOVES GUANGDONG KINGFA SCI.&TECH.

Applicant:

CO.,LTD.

Test Type:

SUBMITTED BY CLIENT

SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd. Page 1 of 7



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检验

調专用章

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Test Report

Sample	Sample Description	NITRILE EXAMINATION GLOVES	Color	BLUE
	Received sample quantity/ Tested sample quantity	80PCS/ 30PCS	Type/ Specifications	KG-1101 M
	Lot No.	NOT PROVIDED	Lot Quantity	NOT PROVIDED
	Manufacture Date	NOT PROVIDED	Expiration Date	NOT PROVIDED
	Material/Appearance	NITRILE	Storage Condition	NOT PROVIDED
	Manufacturer	NOT PROVIDED		\$ \$ \$ \$ \$
Client information	Applicant	GUANGDONG KINGFA SCI.&TECH. CO.,LTD.		CH. CO.,LTD.
	Applicant address		AVENUE, SHIJIAO TO JAN CITY, GUANGDON	

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国际互认 校测 TESTING CNAS L0604

中国认可

Report No.: QDHL2011011608MD

Sample Receiving Date	NOV.02,2020	Test Period Date	NOV.02,2020 TO NOV.17,2020			
Sample No.	QDHL2011011608MD (SL920193013402FW)	Test environment	Meet requirement			
Test items			Force at break, Force a			
Testing Accordance	EN 455-2:2015 Medical Gloves for Single Use – Part 2: Requirements and Testing for Physical Properties Clause 4.2,4.3,5.2,5.3					
This report only pro follow pages.	vides the test results and ir	5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -	onclusion please see			
1	P. 6 55 5	5 45 A	See Street			
	Date Sample No. Test items Testing Accordance This report only pro	Date         NOV.02,2020           Sample No.         QDHL2011011608MD (SL920193013402FW)           Test items         Dimensions(Length, Width break after challenge testi Testing Accordance           EN 455-2:2015 Medical G and Testing for Physical F           This report only provides the test results and in	Date         NOV.02,2020         Test Period Date           Sample No.         QDHL2011011608MD (SL920193013402FW)         Test environment           Test items         Dimensions(Length, Width), Tensile strength (Ibreak after challenge testing)           Testing Accordance         EN 455-2:2015 Medical Gloves for Single Use and Testing for Physical Properties Clause 4.2           This report only provides the test results and individual judgment, co follow pages.         Itest period Date			

Date: 2020 11.17 Date: 2020 11.17 Date: 2020 11.17

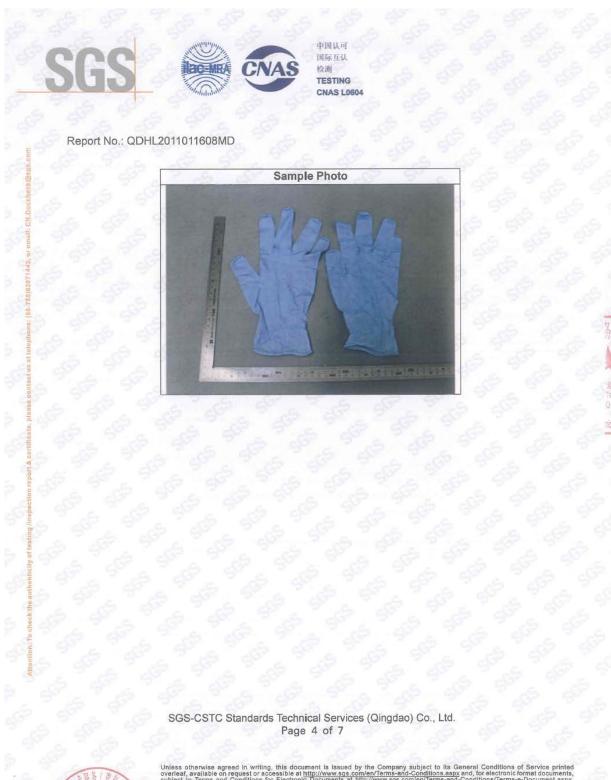
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### 7418895

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202



国际互认 检测 TESTING CNAS L0604

中国认可

Report No.: QDHL2011011608MD

## **Test Results**

Test	Items	Unit	Test Method	Requirement	Test Result	Assessment
Length		mm	EN 455-2:2015 Clause 4.2	Median value: M:≥240	See	Pass
Dimensions Width	mm	EN 455-2: 2015 Clause 4.3	Median value: M:95±10	<ul> <li>appendix 1 for details</li> </ul>	Pass	
challenge		N	EN 455-2: 2015 Clause 5.2	Median value: b): ≥6.0	See	Pass
	break after	N	EN 455-2: 2015 Clause 5.3	Median value: b): ≥6.0	<ul> <li>appendix 2 for details</li> </ul>	Pass

### Appendix 1: Dimensions

Size	М	
No.	Length (mm)	Width (mm)
1 2	250	98
2	253	97
3	250	98
4	249	97
5	248	97
6 6	256	97
7 9 1	245	97
8	248	97
9	255	97
10	253	97
11	253	97
12	253	97
13	253	97
Standard requirement	≥240	95±10
Median value	253	97

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演奏用章



中国认可 国际互认 检测 TESTING CNAS LOGO4

Report No.: QDHL2011011608MD

Appendix 2: Tensile Strength

2 C	5 5 .	Size: M	12	
a	Force	e at break (N)	5	
Before a	ging	After aging		
No.	1	No.	1	
1	9.4	12 1	8.1	
2	8.1	2	8.3	
3	9.2	3	8.8	
4	8.6	4	8.4	
5	8.8	5	8.9	
6	8.9	6	8.4	
7	8.9	7	8.2	
8	9.0	8	8.2	
9	8.6	9	9.4	
10	9.4	10	8.5	
11	11.7	11	7.8	
12	9.3	12	8.0	
13	8.6	13	8.0	
Standard requirement	≥6.0	Standard requirement	≥6.0	
Median value	8.9	Median value	8.3	

Remark: The declaration of conformity is only based on the actual value of laboratory activity, measurement uncertainty of the results not take into account.

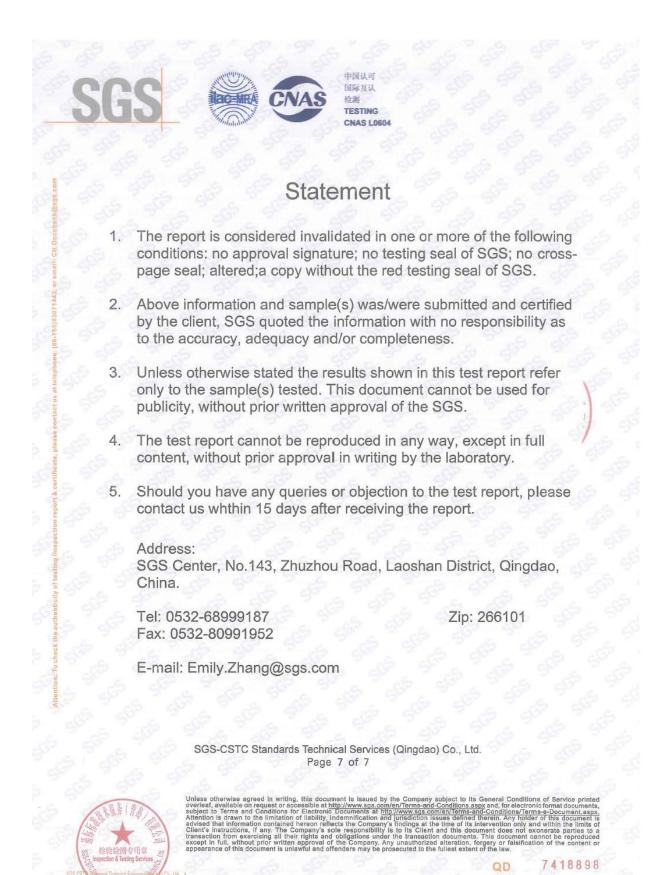
\*\*\*End of Report\*\*\*

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7418897

# KINGFA MEDICAL







国际互认 检测 TESTING CNAS L0604

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## Test Report

Report No.: QDHL2011011609MD

Sample Description: NITRILE EXAMINATION GLOVES

GUANGDONG KINGFA

SCI.&TECH. CO.,LTD.

Test Type:

Applicant:

SUBMITTED BY CLIENT

SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd. Page 1 of 7



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国际互认 检测 TESTING CNAS L0604

中国认可

Report No.: QDHL2011011609MD

## Test Report

	Sample Description	NITRILE EXAMINATION GLOVES	Color	BLUE	
Sample information	Received sample quantity/ Tested sample quantity	100PCS/ 5PCS	Type/ Specifications	KG-1101 M	
	Lot No.	25007026	Lot Quantity	NOT PROVIDED	
	Manufacture Date	2020-07-21	Expiration Date	2023-07-20	
	Material/Appearance	NITRILE (POWDER FREE)	Storage Condition	NOT PROVIDED	
	Manufacturer	NOT PROVIDED			
	Others	NOT PROVIDED			
Client information	Applicant	GUANGDONG KINGFA SCI.&TECH. CO.		CH. CO.,LTD.	
	Applicant address	NO.28 DELONG AVENUE. SHIJIAO TOWN, QINGCHENG DISTRICT, QINGYUAN CITY, GUANGDONG PROVINCE, CHIN			

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Report No.: QDHL2011011609MD

Test information Test	Sample Receiving Date	DEC.17,2020; NOV.02,2020 Test Period Date		NOV.02,2020 TO DEC.21,2020		
	Sample No.	QDHL2011011609MD (SL920193013392FW)         Test environment         Meet require				
	Test items	Removable surface powd	er, Labelling			
	Testing Accordance	EN 455-3:2015 Medical Gloves for Single Use – Part 3: Requirements and Testing for Biological Evaluation Clause 4.4,4.6				
Test conclusion	This report only pro follow pages.	vides the test results and ir	10 - 40 A	5 55 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		
Contract of the	-		Issue date	: DEC.21,2020		

and Cau Auditor: 201 Compiler: Approver al zo 20) Date: Date: " Date: 020.12.2 2. 2 2020. 7

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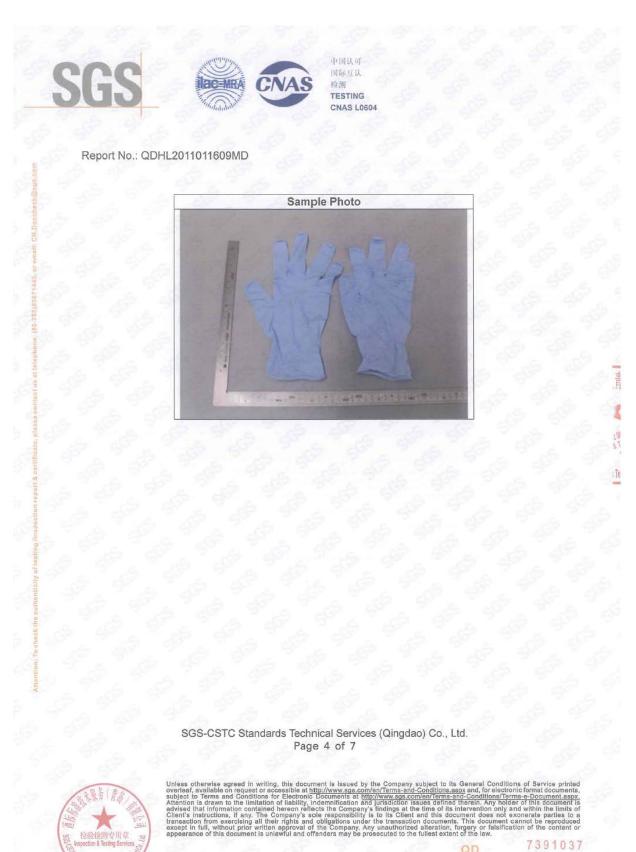


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国际互认 检测 TESTING CNAS L0604

中国认可

Report No.: QDHL2011011609MD

## **Test Results**

Test Items	Unit	Test Method	Requirement	Test Result	Assessment
Removable surface powder	mg	EN 455-3: 2015 Clause 4.4 EN ISO 21171: 2006	≤2	0.10	Pass
Labelling		EN 455-3: 2015 Clause 4.6	The relevant requirement of EN 1041:2008+A1:2013 and EN ISO 15223- 1:2012 The labelling shall include a prominent indication of whether the glove is powdered or powder- free		Pass

#### Remarks:

1. The declaration of conformity is only based on the actual value of laboratory activity, measurement uncertainty of the results not take into account.

Labelling assessment was based on the information provided by the customer, excluding the verification of the authenticity of the content. SGS is not responsible for verifying the accuracy of the information provided by customers.

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

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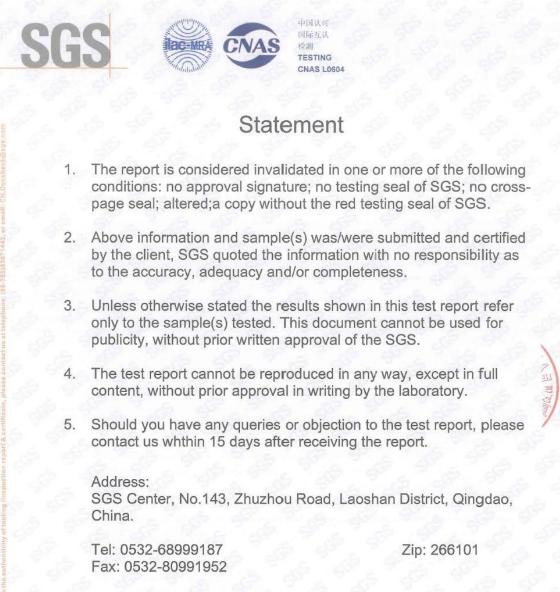


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Member of the SGS Group (SGS SA)

# KINGFA MEDICAL



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中国认可 国际互认 检测 TESTING CNAS L2954

## **Final Report**

Report Number: SDWH-M202005591-1(E)

## Physical Properties Shelf Life Test of Nitrile gloves

Accelerated Aged for 1 Year Accelerated Aged for 3 Years

Sponsor: GUANG DONG KINGFA SCI.& TECH.CO.,LTD

Address: No.28 Delong Ave., Shijiao Town, Qingcheng Ristric, Qing yuan, Guangdong, China



### Sanitation & Environment Technology Institute, Sooch (2) Upiversity

Address: 199 Ren-Ai Road, Suzhou Industrial Park, Suzhou, Jiangsu 215123, P. R. ChinaWebsite: www.sudatest.comDirect: +86 512 65880038Free: 400 107 8828

Sanitation & Environment Technology Institute, Soochow University Report No.: SDWH-M202005591-1(E)



	rification Dates
	mmary
Te	st Report
1	Purpose
2	Reference
3	Compliance
4	Identification of Test Article
5	Equipment and Reagents
	5.1 Equipment
6	Test Methods and Results
	6.1 Accelerated Aging Test
	6.2 Watertightness Test
	6.3 Physical property test
7	Conclusion
8	Record Storage
9	Confidentiality Agreement
10	Deviation statement
A	nnex 1 Test Data
A	nnex 2 Photograph of Test Article 1
	nnex 3 Information Provided by Sponsor1



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Sanitation & Environment Technology Institute, Soochow University Report No.: SDWH-M202005591-1(E)

## Supplementary Explanation

(1) Please apply for rechecking within 15 days of receiving the report if there are any objections.

(2) Any erasure or without special inspection and testing seal renders the report null and void.

(3) The report is only valid when signed by the persons who edited, checked and approved it.

(4) The results relate only to the articles tested.

(5) The report shall not be reproduced except in full without the written approval of the institute.

(6) Conclusion determination basis is not in the scope of accreditation.













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- SD	Verification Dates	eport No.: SDWH-M202005591-1(E)
	Fest Article Receipt	2020-10-13
Рг	rotocol Effective Date	2020-10-21
Tec	hnical Initiation Date	2020-10-29
Tech	nnical Completion Date	2021-02-23
Final	Report Completion Date	2021-03-08
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H SDW		SDWH SDW
Edit	ed by: <u>Wang Deheng</u>	<u>2021-03-08</u> Date
	I To American	
Review	ed by: <u>Jiang Changyuan</u> Study Director	<u>2021-03-08</u> Date
Approv	ed by: <u>Wang 1 Jie</u>	2021-03-08
X	Authorized Signatory	K Dag #
Sanitati	on & Environment Technology Inst	tute, Spochow University
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	Page 4 of 12	<b>林林林湖丰田</b> 善

Sanitation & Environment Technology Institute, Soochow University Report No.: SDWH-M202005591-1(E)

## Summary

### 1 Test Article

Test Article Name	Nitrile gloves
Manufacturer	GUANG DONG KINGFA SCI.& TECH.CO.,LTD
Address	No.28 Delong Ave.,Shijiao Town,Qingcheng District,Qing yuan,Guangdong,China
Model	KG-1101
Lot/Batch	25007015/25007016/25007017

### 2 Main Reference

Medical gloves for single use Part 4: Requirements and testing for shelf life determination (EN455-4:2009)

Standard Guide for Accelerated Aging of Sterile Barrier Systems for Medical Devices (ASTM F 1980-16)

### 3 Test Method

Watertightness test and physical property test were performed both before and after the test glove were accelerated aged for 33 days and 97 days. Study protocol number: SDWH-PROTOCOL-M202005591-1.

### 4 Conclusion

The test glove could achieve the physical properties shelf life for 3 years under this test condition.



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Sanitation & Environment Technology Institute, Soochow University Report No.: SDWH-M202005591-1(E)

## **Test Report**

## 1 Purpose

The test was designed to validate the physical properties shelf life of the test gloves.

## 2 Reference

Medical gloves for single use Part 4: Requirements and testing for shelf life determination (EN455-4:2009)

Standard Guide for Accelerated Aging of Sterile Barrier Systems for Medical Devices (ASTM F 1980-16)

### 3 Compliance

ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories (CNAS—CL01 Accreditation criteria for the competence of testing and calibration laboratories) China National Accreditation Service for Conformity Assessment LABORATORY ACCREDITATION CERTIFICATE Registration No. CNAS L2954

RB/T 214—2017 Competence assessment for inspection body and laboratory mandatory approval—General requirements for inspection body and laboratory Certification and Accreditation Administration of the People's Republic of China INSPECTION BODY AND LABORATORY MANDATORY APPROVAL Certificate No. CMA 180015144061

## 4 Identification of Test Article

Test Article Name	Nitrile gloves	
Manufacturer	GUANG DONG KINGFA SCI.& T	ECH.CO.,LTD
Address	No.28 Delong Ave., Shijiao Town, Qi yuan, Guangdong, China	ngcheng District,Qing
Test Article Initial State	Non-sterile	
CAS Number	Not supplied by sponsor (N/S)	
Model	KG-1101	
Size	M	
Lot/Batch	25007015/25007016/25007017	
Raw Material	Nitrile	
Packaging Material	N/A	
Physical State	Solid	
Color	BLUE 🧹	
Density	N/A	
Stability	N/A	
Solubility	N/A	
Storage Condition	Room temperature	
Intended Use	N/A	
Additional Information	N/A	

The information about the test article was supplied by the sponsor wherever applicable.

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#### Sanitation & Environment Technology Institute, Soochow University Report No.: SDWH-M202005591-1(E)

## 5 Equipment and Reagents

#### 5.1 Equipment

Equipment Name	Equipment Number	Calibration Expire
Ruler	SDWH463	2021-07-06
Computer control tensile tester	SDWH872	2021-03-11
High temperature and high humidity aging box	SDWH314	2021-09-29
High temperature and low humidity aging box	SDWH315	2021-09-02

### 6 Test Methods and Results

#### 6.1 Accelerated Aging Test

6.1.1 Test condition: Accelerated Aging Temperature (60°C), High RH (70%), Low RH (20%),  $Q_{10}\!\!=\!\!2$ 

6.1.2 Parameters:

Aging Time	Q <sub>10</sub>	T <sub>AA</sub>	T <sub>RT</sub>	AAF	Desired RT	AAT
1 y	2	60°C	25°C	11.3	365Days	33 Days
3 у	2	60°C	25℃	11.3	1095Days	97 Days
- 1 <b>-</b> 1	2	60°C		100000		

 $Q_{10}$ : Arrhenius reaction rate function states that a 10°C increase or decrease in temperature of a homogeneous process results in approximately, a two times or 1/2-time change in the rate of a chemical reaction ( $Q_{10}$ =2).

T<sub>AA</sub>: Selected Accelerated Aging Temperature (°C);

T<sub>RT</sub>: Ambient Temperature (°C).

AAF (Accelerated Aging factor) =  $Q_{10}^{[(T_{AA}^{-T_{RT}})^{(10)}]}$ .

Desired RT: Desired simulated Real Time.

AAT: Accelerated Aging Time to simulate a Desired RT; AAT = Desired RT/AAF

6.1.3 Calculation for accelerated aging time:

Accelerated Aging factor (AAF) =  $Q_{10}^{[(T_{AA}-T_{RT})/10]} = 2^{[(60-25)/10]} = 11.3$ 

Accelerated Aging Time of 1y (AAT) = Desired (RT)/AAF=365/11.3=33 days

Accelerated Aging Time of 3y (AAT) = Desired (RT)/AAF=1095/11.3=97 days

6.1.4 Aging schedule:

1y Equivalent 33 Days	Date
High RH = 70%: 16 Days	From 2020-10-29 to 2020-11-14
Low RH = 20%: 17 Days	From 2020-11-14 to 2020-12-01
3y Equivalent 97 Days	Date
High RH = 70%: 48 Days	From 2020-10-29 to 2020-12-16
Low RH = 20%: 49 Days	From 2020-12-16 to 2021-02-03

6.1.5 Watertightness test and physical property test were performed both before and after the test glove were accelerated aged for 33 days and 97 days.

#### 6.2 Watertightness Test

6.2.1 Test samples: 50 pieces/Batch.

Sanitation & Environment Technology Institute, Soochow University Report No.: SDWH-M202005591-1(E)

6.2.2 Vertically positioned the filling tube to fit the glove and attached the glove to the filling tube, overlapping the cuff by a maximum of 40 mm over the end of the tube and secured it to obtain a watertight seal without damaging the globe.

6.2.3 Added  $1000 \pm 50$  ml of water at a temperature of  $(15 \text{ to } 35)^{\circ}$ C into the open end of the filling tube, allowing the water to pass freely into the glove.

6.2.4 Immediately inspected the glove visually for water leakage. Allowed the glove to hang and visually inspected the glove for water leakage again after a period of 2 min to 3 min.6.2.5 Disregard leakages within 40 mm of the cuff.

6.2.6 Results: List in Table.

#### 6.3 Physical property test

6.3.1 Obtained one dumb-bell test piece from each of 13 gloves/batch using a cutter from the palm, back of the hand or cuff areas of each glove in the test sample, avoiding textured areas if possible and taking the test pieces in the direction of the longitudinal axis of the glove;

6.3.2 Determined the force at break of the 13 test pieces after conditioning at  $23\pm2^{\circ}$ C and  $50\pm5\%$  relative humidity for 24 hours under test condition and cross-head speed of 500 mm/min; 6.3.3 Recorded the force at break, in Newtons, for each of the 13 samples.

6.3.4 Results: List in Table.

### 7 Conclusion

The test glove could achieve the physical properties shelf life for 3 years under this test condition.

## 8 Record Storage

All raw data pertaining to this study and a copy of the final report are to be retained in designated SDWH archive.

### 9 Confidentiality Agreement

Statements of confidentiality were as agreed upon prior to study initiation.

### **10** Deviation statement

There was no deviation from the approved study protocol which was judged to have any impact on the validity of the data.

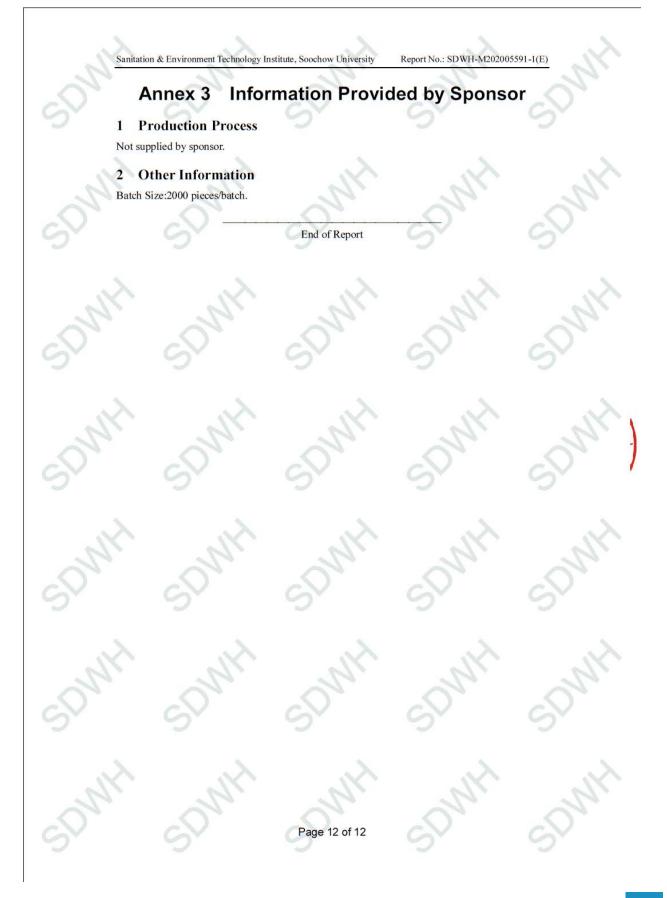
Page 8 of 12

	Annex 1	Test Data	
Table 1 Th	e results of watertightn	ess test (Lot/ Batch: 25	007015)
	The Results	The Results	The Results
	(Zero-time)	(1 year Aged)	(3 years Aged)
Sample	50 Gloves	50 Gloves	50 Gloves
Number of Non-conforming	0 Glove	0 Glove	0 Glove
Criteria	≤2 Gloves	≤2 Gloves	
Conclusion	Acceptable	Acceptable	Acceptable
Contrasion			
Table 2 Th		ess test (Lot/ Batch: 25	
	The Results	The Results	The Results
Constant Constant	(Zero-time)	(1 year Aged)	(3 years Aged)
Sample Number of	50 Gloves	50 Gloves	50 Gloves
Non-conforming	0 Glove	0 Glove	0 Glove
Criteria	≤2 Gloves	≤2 Gloves	≤2 Gloves
Conclusion	Acceptable	Acceptable	Acceptable
2	5	1	
Table 3 Th	0	ess test (Lot/ Batch: 25	
	The Results	The Results	The Results
Sample	(Zero-time) 50 Gloves	(1 year Aged) 50 Gloves	(3 years Aged) 50 Gloves
Number of Non-conforming	0 Glove	0 Glove	0 Glove
Criteria	≤2 Gloves	≤2 Gloves	≤2 Gloves
Conclusion	Acceptable	Acceptable	Acceptable
Table 4 The		perty test (Lot/Batch: 2	
No.	Force at break (Zero-time) N	Force at break (1 year Aged) N	Force at break (3 years Aged) N
1	7.06	7.27	8.47
2	7.49	6.01	6.29
3	8.03	9.29	6.72
4	7.47	10.21	7.72
5	7.91	10.00	9.23
6	6.92	10.89	6.66
6 7 8	10.38	11.07	10.72
8	10.06	10.63	9.74
9	9.86	9.69	11.22
10	9.29	9.54	9.15
11	8.27	8.96	8.88
12	10.52	9.38	10.21
13	8.31	7.06	6.87
Median	8.27	9.54	8.88
Criteria	≥6.0	≥6.0	≥6.0
Conclusion	Acceptable	Acceptable	Acceptable
Conclusion	Acceptable	Acceptable	Acceptable

# **KINGFA** MEDICAL Protecting people

~~~	Table 5 The r	esults of physical prop	erty test (Lot/ Batch: 2	5007016)	Su.	
	No.	Force at break (Zero-time) N	Force at break (1 year Aged) N	Force at break (3 years Aged) N		
	1	9.34	11.01	10.80		
	2	10.47 11.51	8.34 9.79	8.57 9.44		
	4	7.58	9.80	10.23		
	5	7.94	8.76	7.84		
	6	10.78	6.80	9.28		
	7 8	8.52 9.44	7.86 6.28	7.51		
	9	8.94	8.36	11.69		
	10	10.07	11.18	8.83		
	11	9.03	12.31	9.09		
	12 13	10.02	9.95	9.19 8.53		
	Median	11.29 9.44	8.76	8.53 9.19		
<u> </u>	Criteria	≥6.0	≥6.0	>6.0		
2	Conclusion	Acceptable	Acceptable	Acceptable		
-	Table 6 The r	esults of physical pror	erty test (Lot/ Batch: 2	5007017)	0	
-		Force at break	Force at break	Force at break		
	No.	(Zero-time) N	(1 year Aged) N	(3 years Aged) N		
~	1	10.57	7.81	7.15		~
$\sim$	2 3	9.68 8.75	6.17 8.40	11.16 10.02	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	5
11	4	9.11	6.89	8.79		1
	5	11.10	6.63	6.43		( 1) / 1/1/ sima
	6	9.11	7.59	5.45		1
	8	10.95 9.60	7.65 9.21	11.73 8.79		Ĩ
	8	9.72	7.51	9.35		1
	10	10.17	7.47	6.10		
	11	10.85	7.38	7.47		
$\sim$	12 13	10.20	6.19	8.46	$\sim$	
1	Median	8.81 9.72	11.01 7.51	9.74 8.79	10.	
· · · · · ·	Criteria	≥6.0	≥6.0	≥6.0		
	Conclusion	Acceptable	Acceptable	Acceptable		
	5	2	2	9		
Z	- ONH	-01	in Si	NH?		
			of 12		o Mr	





## **TEST REPORT**

## EN 374 1-5

TECHN	OLOGY Nanchen Guang Tel: +	ology Services (Dongguan) Ltd inzhongyin Garden, Xiping j District, Dongguan City dong Province, China 86 (0) 769 22888020 II: <u>info@satrafe.com</u>	
Customer details:	GUANGDONG KINGFA S	CI.&TECH. CO., SATRA r	eference: CHT0305029 /2047
	NO.28 Delong Avenue, Sh Qingcheng District	ijiao Town Your refe	rence: KG-1101
	Qingyuan Guangdong China	Date of r	eport: 10 December 2020
		Samples	received: 17 November 2020
		Date(s) v carried o	
	TECHN		-
	TECHN	ICAL REPORT	
Subject:	and water leak, EN ISO 37	4-5: 2016 viruses test on Dis	est, EN ISO 374-2: 2019 air lea posable Powder Free Nitrile ), XL(9), Reference number: K
Conditions of Issue	SEN FOEN 20 DE 2020 NBER 2020 2020 DE 2020 2020 2020 DE 2020 2020 DE 2		
This report may be for	prwarded to other parties provide	ed that it is not changed in any w	ay. It must not be published, for RA.
This report may be for example by including	prwarded to other parties provide it in advertisements, without the	e prior, written permission of SAT	
This report may be for example by including Results given in this guidance only. A satisfactory test i given as to the perf	prwarded to other parties provide it in advertisements, without the report refer only to the samples report in no way implies that t	e prior, written permission of SAT submitted for analysis and tester ne product tested is approved I. SATRA shall not be liable fo	RA. I by SATRA. Comments are for
This report may be for example by including Results given in this guidance only. A satisfactory test given as to the perf incurred by the clie The uncertainty of th	prwarded to other parties provide it in advertisements, without the report refer only to the samples report in no way implies that t ormance of the product tester nt as a result of information s	e prior, written permission of SAT submitted for analysis and tester ne product tested is approved I. SATRA shall not be liable fo upplied in the report. based on a standard uncertainty	RA. I by SATRA. Comments are for by SATRA and no warranty is
This report may be for example by including Results given in this guidance only. A satisfactory test given as to the perf incurred by the clie The uncertainty of th	prwarded to other parties provide it in advertisements, without the report refer only to the samples report in no way implies that t ormance of the product tester nt as a result of information s e results (UOM) in this report is l	e prior, written permission of SAT submitted for analysis and tester ne product tested is approved I. SATRA shall not be liable fo upplied in the report. based on a standard uncertainty	RA. I by SATRA. Comments are for by SATRA and no warranty is r any subsequent loss or damag

TECHNOLOGY	TECHNICAL REPORT
WORK REQUESTED	
XL(9), Reference number: K0	osable Powder Free Nitrile Examination Gloves, Color: Blue, Size: S (6), M (7), L (8), G-1101 were received by SATRA on 17 November 2020 for testing in accordance N ISO 374-2: 2019 and EN ISO 374-5: 2016.
SAMPLE SUBMITTED	
	Massy
	1 CLOGY
	Samples described as Disposable Powder Free Nitrile Examination Gloves, Color:
	Blue, Reference number: KG-1101
TESTING REQUESTED	
EN ISO 21420: 2020 Clause	
EN ISO 374-2: 2019 Clause EN ISO 374-2: 2019 Clause	
	5.3 - Protection against viruses (ISO 16604: 2004 Procedure B)
	e 4.2 – Innocuousness of protective gloves
EN ISO 21420: 2020 Clause CONCLUSION The samples described as D	Disposable Powder Free Nitrile Examination Gloves, Color: Blue, Size: S (6), M (7), ber: KG-1101 were found to achieve the following results:
EN ISO 21420: 2020 Clause CONCLUSION The samples described as D L (8), XL(9), Reference numb EN ISO 21420: 2020 Clause	ber: KG-1101 were found to achieve the following results: 5.1 – See below table
EN ISO 21420: 2020 Clause CONCLUSION The samples described as D L (8), XL(9), Reference numb EN ISO 21420: 2020 Clause EN ISO 21420: 2020 Clause	ber: KG-1101 were found to achieve the following results: 5.1 – See below table 5.2 – Level 5
EN ISO 21420: 2020 Clause CONCLUSION The samples described as D L (8), XL(9), Reference numb EN ISO 21420: 2020 Clause	ber: KG-1101 were found to achieve the following results: 5.1 – See below table 5.2 – Level 5 7.2 – Pass
EN ISO 21420: 2020 Clause CONCLUSION The samples described as D L (8), XL(9), Reference numb EN ISO 21420: 2020 Clause EN ISO 21420: 2020 Clause EN ISO 374-2: 2019 Clause EN ISO 374-2: 2019 Clause EN ISO 374-5: 2016 Clause	ber: KG-1101 were found to achieve the following results: 9.5.1 – See below table 9.5.2 – Level 5 7.2 – Pass 7.3 – Pass 5.3 – Pass
EN ISO 21420: 2020 Clause CONCLUSION The samples described as D L (8), XL(9), Reference numb EN ISO 21420: 2020 Clause EN ISO 21420: 2020 Clause EN ISO 374-2: 2019 Clause EN ISO 374-2: 2019 Clause EN ISO 374-5: 2016 Clause	ber: KG-1101 were found to achieve the following results: 5.1 – See below table 5.2 – Level 5 7.2 – Pass 7.3 – Pass
EN ISO 21420: 2020 Clause CONCLUSION The samples described as D L (8), XL(9), Reference numb EN ISO 21420: 2020 Clause EN ISO 21420: 2020 Clause EN ISO 374-2: 2019 Clause EN ISO 374-2: 2019 Clause EN ISO 374-5: 2016 Clause	ber: KG-1101 were found to achieve the following results: 9.5.1 – See below table 9.5.2 – Level 5 7.2 – Pass 7.3 – Pass 5.3 – Pass 9.4.2 – Pass PAHs, DMFA and pH value

Testing							
Testing was car	ried out in accor	dance with EN ISO 2	21420:202	0, EN ISO	374-2: 201	9	
Samples for test and (50±5) % re	ting were conditi lative humidity.	oned for at least 24	nours in a	conditione	d environm	nent maintained a	at (23±2) °
Requiremer	nts						
Table 1 – Requi	rements for EN	ISO 21420: 2020 Cla	ause 5.2 E	Dexterity			
Performance le	evel	1	2	3		4	5
Diameter of dex	terity pin /mm	11.0	9.5	8.0	0	6.5	5.0
Clause 7.2 Air le			5.5. 	o leak to be o leak to be			
Clause 7.3 Wate	erleak		N	o leak to be	e detected		
Test Result	s						
Table 3 - EN IS	O 21420:2020 T	est Results	000	~	10-01	m_ Dr	402
Table 3 – EN IS Clause / Test	O 21420:2020 T Requirement	The second second	rest Resu	lts	EOE	UoM (See note ♠)	Resul
122 1	LAV CA	The second second	ECY	_ength /mn	No.		Resul
122 1	LAV CA	2020,055	En	_ength /mn 2	3		Resu
122 1	LAV CA	Size	ECY	_ength /mn	No.		Resul
Clause / Test	LAV CA	Size 6	En	_ength /mn 2	3		Resul
Clause / Test 5.1 Glove length, comfort	LAV CA	Size 6 Comfortable on fit	1 241	Length /mn 2 241	3 240		Resul
Clause / Test 5.1 Glove	Requirement	Size 6 Comfortable on fit 7	1 241	Length /mn 2 241	3 240	(See note ♠)	0200
Clause / Test 5.1 Glove length, comfort	Requirement	Size 6 Comfortable on fit 7 Comfortable on fit	1 241 240	ength /mn 2 241 240	3 240 239	(See note ♠)	0200
Clause / Test 5.1 Glove length, comfort	Requirement	Size 6 Comfortable on fit 7 Comfortable on fit 8 Comfortable on fit 9	1 241 240	ength /mn 2 241 240	3 240 239	(See note ♠)	626
Clause / Test 5.1 Glove length, comfort	Requirement	Size 6 Comfortable on fit 7 Comfortable on fit 8 Comfortable on fit	1 241 240 242	ength /mn 2 241 240 235	3 240 239 245	(See note ♠)	0200
Clause / Test 5.1 Glove length, comfort	Requirement	Size 6 Comfortable on fit 7 Comfortable on fit 8 Comfortable on fit 9	1 241 240 242 235	ength /mn 2 241 240 235	3 240 239 245 240	(See note ♠)	0200
Clause / Test 5.1 Glove length, comfort and fit	N/A	Size 6 Comfortable on fit 7 Comfortable on fit 8 Comfortable on fit 9 Comfortable on fit 5 Size 6	1 241 240 242 235	Length /mn 2 241 240 235 240 240	3 240 239 245 240	(See note ♠) ± 1.10 mm	N/A
Clause / Test 5.1 Glove length, comfort	Requirement	Size 6 Comfortable on fit 7 Comfortable on fit 8 Comfortable on fit 9 Comfortable on fit 5	1 241 240 242 235	ength /mn 2 241 240 235 240	3 240 239 245 240	(See note ♠)	Resul N/A

GUANGDONG KINGFA SCI.&TECH. CO., LTD SATRA Reference: CHT0305029 /2047 Date: 10 December 2020

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## **TECHNICAL REPORT**

Table 4 - EN ISO 374-2: 2019 Test Results

TECHNOLOGY

Clause / Test	Test Res	sults	UoM (See note ♣)	Result
	Total air pressure used	2.9 kPa		
	Sample size	Leaks		1
7 O Aislash test	6	No leaks detected		
7.2 Air leak test	7	No leaks detected	N/A	Pass
	8	No leaks detected	11/5	1 000
	9	No leaks detected		
	Sample size	Leaks		
	6	No leaks detected		
7.3 Water leak test	7	No leaks detected	N/A	Pass
	8	No leaks detected		
	9	No leaks detected		

#### Additional Information / Notes

Note • – Estimated uncertainty of measurement applied at point of test (e.g. to applied force or to tolerance limits) to ensure product meets requirements of the standard

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## **TECHNICAL REPORT**

#### **Protection Against Viruses Test Results**

SATRA

TECHNOLOGY

Testing was conducted at a third-party laboratory and reported under their reference 20R006810. The laboratory is CNAS accredited to ISO 17025: 2017 with ISO 16604: 2004 included in their accreditation schedule.

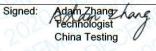
 
 Table 1 – Resistance to penetration by blood-borne pathogens results

 Sample description:
 Disposable Powder Free Nitrile Examination Gloves, Color: Blue, Reference
 Sample description:

Sample des	chption.	number: KG-110	)1			
Test method	Specimen	Step 1 (0 kPa, 5 min)	Step 2 (14 kPa, 1min)	St <mark>ep</mark> 3 (0kPa, 4min)	Titre of phage Phi-X174 (PFU /mL)	Comment
ISO 16604:	+ control	Penetration	Penetration	Penetration	Penetration	Acceptable
2004	- control	No penetration	No penetration	No penetration	< 1	Acceptable
Procedure B	1	Invisible penetrate	Invisible penetrate	Invisible penetrate	< 1	Pass
Using retaining	2	Invisible penetrate	Invisible penetrate	Invisible penetrate	< 1	Pass
screen	3	Invisible penetrate	Invisible penetrate	Invisible penetrate	< 1	Pass

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## **TECHNICAL REPORT**

#### **Innocuousness Test Results**

TECHNOLOGY

Testing was conducted at a third-party laboratory and reported under their reference A201123018001. The laboratory is CNAS accredited to ISO 17025: 2017.

Sample Item	Sample Description	Location	Style
1001	Blue Disposable Powder Free Nitrile Examination Gloves	Gloves	-

#### pH Value - EN ISO 21420:2020

Test Method I : With reference to EN ISO 4045:2018, analyzed by pH meter. Test Method II: With reference to ISO 3071:2020, analyzed by pH meter.

Requirement:	3.5-9.5	
		FALMALAAV
	Unit	Result
Test Item(s)	-	1001
Test Method		I
Parameter		
pH Value of Extracting Solution	-	5.50
Temp. of Aqueous Extract	deg. C	25.1
pH Value of Aqueous Extract	2 <b>-</b>	7.0
Difference Figure	~C-14"	OF OF SO SNY OF OU
Conclusion	UY - 50	PASS

Note / Key : Remark: deg. C = degree Celsius (°C) Temp. = Temperature Result(s) was (were) reported the average value from two trials. Tested part(s) was/were specified by client.

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2

3

4

Benzo (a) pyrene

Benzo (e) pyrene

Benzo (a) anthracene

SA			CAL R	EPORT	
Polycyclia Test Metho		rocarbons (PAHs) Content - E		and a second sec	
Maximum Limit:	Allowable	Each of all listed PAHs: 1.0	m <mark>g/kg</mark>		
			Result		
Tested I	em(s)	Detected Analyte(s)	Cond	c. Unit	Conclusion
100	1	ND	ND	mg/kg	PASS
Note / Ke Remark:	mg/kg = m The list of	detected( <detection limit)<br="">nilligram per kilogram = ppm = pa polycyclic aromatic hyrdocarbon t(s) was/were specified by client</detection>	art per million ns is summarized	Limit (mg/kg) : Each : 0.2; d in table of Appendix.	
			APPENDIX		
List of P	olynuclear Aro Name of Ana	matic Hydrocarbons:	APPENDIX No.	Name of Analytes	CAS-No.

6

7

8

Benzo (b) fluoranthene

Benzo (j) fluoranthene

Benzo (k) fluoranthene

50-32-8

56-55-3

192-97-2

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205-99-2

205-82-3

207-08-9

Analyte	Unit	Result Test Item(s)	Client's
D Y		1001	Requirement
Dimethylformamide(DMF	FA) mg/kg	ND	1000
Conclusion	*	PASS	-



	Tak 444 (0) 4500	Vay, Kettering, ) United Kingdom 410000 410626 a.com	S S S S S S S S S S S S S S S S S S S
Customer details:	SATRA Technology Services (Dongg Unit 110, Xinzhongyin Garden Hongwei Road Xiping, Nancheng District DONGGUAN CITY Guangdong Province China 523079	uan) Ltd SATRA reference: CHM0305281/2047 /A Your reference: CHT0305029 Date of report: 23 <sup>rd</sup> December 202 Samples received: 20 <sup>th</sup> November 202 Date(s) work carried out: 23 <sup>rd</sup> November 10	0
	TECHNICAL	REPORT	
Subject:		nue, Shijiao Town	
	number: KG-1101		
Conditions of Issue	MBERDECEME DE NBERDECEME DE 2020 CR 2020 DE	2020 DER 2018BED DE 2020 DER 2020 DER ECENBER DECEMBER	20/20/20/20/20/20/20/20/20/20/20/20/20/2
example by including Results given in this guidance only. Tests marked ≠ fall o the comments based knowledge. A satisfactory test of	: prwarded to other parties provided that it is r it in advertisements, without the prior, writt report refer only to the samples submitted fo utside the UKAS Accreditation Schedule for upon them are outside the scope of UKAS report in no way implies that the product	or analysis and tested by SATRA. Comments are for SATRA. All interpretations of results of such tests ar accreditation and are based on current SATRA tested is approved by SATRA and no warranty is	
This report may be for example by including Results given in this guidance only. Tests marked ≠ fall of the comments based knowledge. A satisfactory test n given as to the perf incurred by the clie The uncertainty of th	ereport in no way implies that the product ormance of the product tested. SATRA s nt as a result of information supplied in t	en permission of SATRA. or analysis and tested by SATRA. Comments are for SATRA. All interpretations of results of such tests ar accreditation and are based on current SATRA tested is approved by SATRA and no warranty is shall not be liable for any subsequent loss or dame	ige
This report may be for example by including Results given in this guidance only. Tests marked ≠ fall of the comments based knowledge. A satisfactory test n given as to the perf incurred by the clie The uncertainty of th	: prwarded to other parties provided that it is r it in advertisements, without the prior, writt report refer only to the samples submitted for utside the UKAS Accreditation Schedule for upon them are outside the scope of UKAS report in no way implies that the product ormance of the product tested. SATRA s nt as a result of information supplied in t e results (UoM) in this report is based on a	en permission of SATRA. or analysis and tested by SATRA. Comments are for SATRA. All interpretations of results of such tests ar accreditation and are based on current SATRA tested is approved by SATRA and no warranty is shall not be liable for any subsequent loss or dam. he report.	ige



#### WORK REQUESTED:

TECHNOLOGY

Samples of gloves described as Disposable Powder Free Nitrile Examination Gloves, reference number: KG-1101 were received on the 20<sup>th</sup> November 2020 for testing in accordance with EN 16523-1:2015+A1:2018 and assessment in accordance with the requirements of EN ISO 374-1:2016+A1:2018.

SAMPLES SUBMITTED:



Samples described as Disposable Powder Free Nitrile Examination Gloves, reference number: KG-1101

#### CONCLUSION:

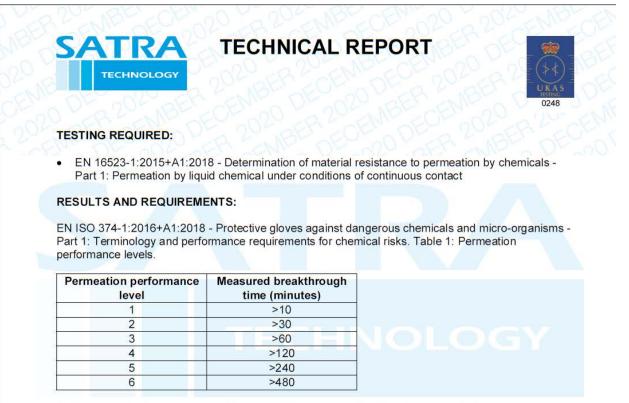
When assessed in accordance with the requirements of EN ISO 374-1:2016+A1:2018 the samples of gloves described as Disposable Powder Free Nitrile Examination Gloves, reference number: KG-1101 achieved the following performance levels:

Chemical	Performance level
n-Heptane (CAS: 142-82-5)	The samples tested did not meet with the minimum breakthrough time for a performance level 1 to be achieved
40% Sodium hydroxide (CAS: 1310-73-2)	6
30% Hydrogen peroxide (CAS: 7722-84-1)	2 2 2
37% Formaldehyde (CAS: 50-00-0)	6

Full results are reported in the following tables.

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SATRA Reference:	CHM0305281/2047/EN/A		0000
Date:	23 <sup>rd</sup> December 2020	(Page 2 of 10)	MOUT





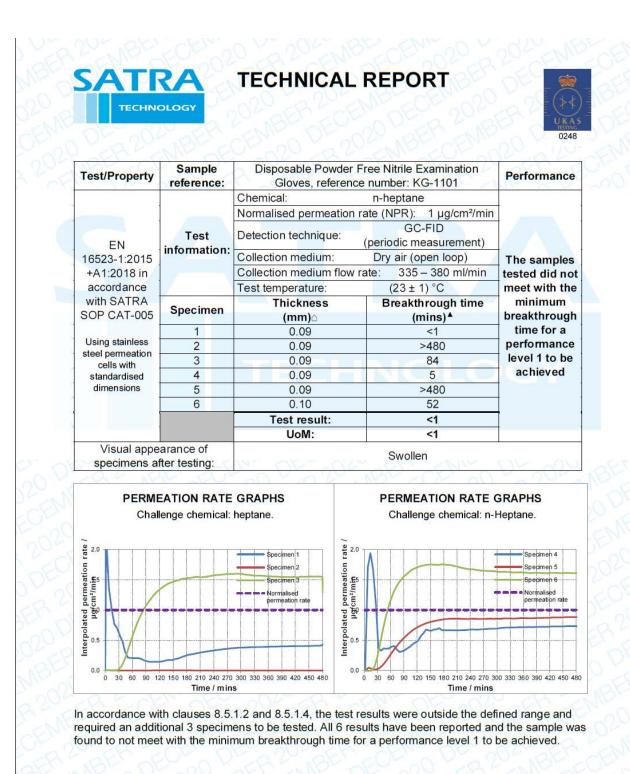
Performance levels are based on the lowest individual result achieved per chemical.

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 23<sup>rd</sup> December 2020
 (Page 3 of 10)

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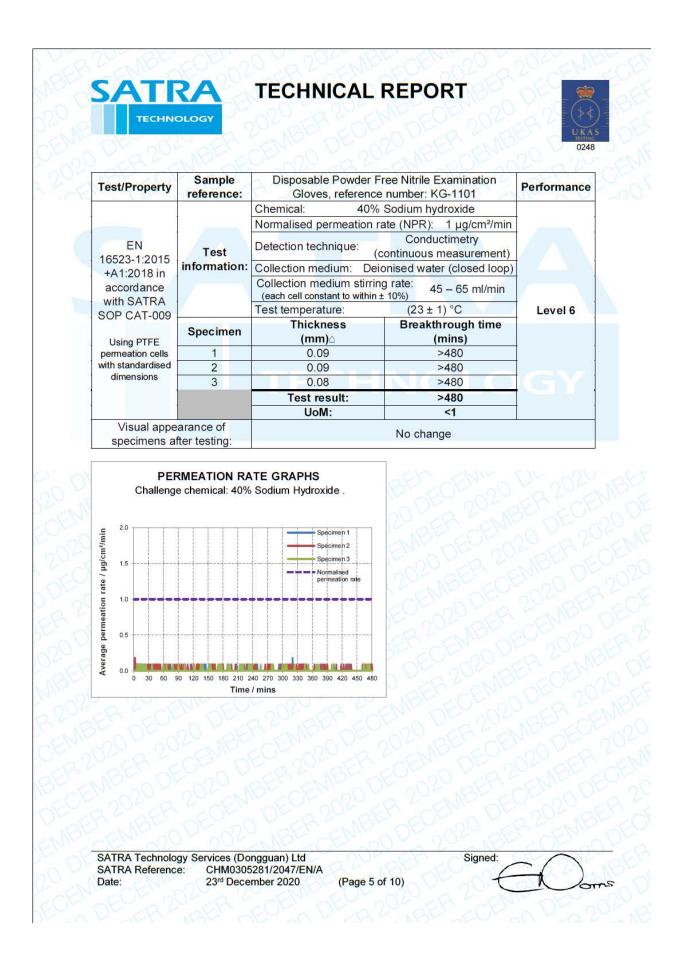
 SATRA Technology Services (Dongguan) Ltd

 SATRA Reference:
 CHM0305281/2047/EN/A

 Date:
 23<sup>rd</sup> December 2020
 (Page 4 of 10)

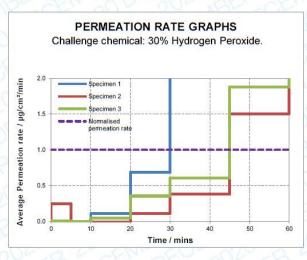
Signed:





		TECHNICAL	. REPORT	
Test/Property	Sample reference:		Free Nitrile Examination	Performance
EN 16523-1:2015 +A1:2018 in accordance	Test information:	Normalised permeation Detection technique:	% Hydrogen peroxide n rate (NPR): 1 μg/cm²/mir Electrochemical detector (periodic measurement) beionised water (closed loop ring rate:	
with SATRA SOP CAT-025		(each cell constant to with Test temperature:		Level 2
Using PTFE	Spec imen	Thickness (mm)∆	Breakthrough time (mins) <sup>▼</sup>	
permeation cells	1	0.10	Between 31 to 45	
with standardised	2	0.10	Between 46 to 60	
dimensions	3	0.09	Between 46 to 60	
		Test result:	Between 31 to 45	
Visual appe	arance of fter testing:	UoM:	Swellen	

For SOP CAT-025, where both the  $P_1$  and  $P_u$  are observed in the same sampling range, uncertainty is expressed as the time difference between the mid-point of the range and the previous sampling time. This uncertainty is included in the reported result.



Hydrogen peroxide is determined by discrete sampling; therefore the permeation rate graph is not a smooth curve.

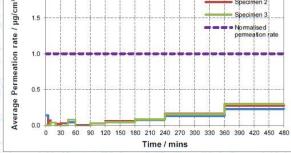
 SATRA Technology Services (Dongguan) Ltd

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 Date:
 23<sup>rd</sup> December 2020
 (Page 6 of 10)

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	Free Nitrile Examination	Performanc
Normalised permeation	rate (NPR): 1 µg/cm²/min	
Detection technique:	HPLC-DAD (periodic measurement)	
ion: Collection medium: De	eionised water (closed loop)	<u> </u>
	45 - 05 Minmin	
Test temperature:		Level 6
(mm)≙	Breakthrough time (mins) <sup>▼</sup>	
	>480	
California C		
	Conversion of the second s	
SM		
	Ce:     Gloves, reference       Chemical:     3'       Normalised permeation     3'       Detection technique:     3'       ion:     Collection medium:     Detection technique:       Collection medium:     Detection technique:       Collection medium:     Detection technique:       Total constant to within     Test temperature:       en     Thickness       (mm)△     0.09       0.09     0.09       0.09     0.09       Test result:     UoM:	ce:       Gloves, reference number: KG-1101         Chemical:       37% Formaldehyde         Normalised permeation rate (NPR):       1 µg/cm²/min         Detection technique:       HPLC-DAD (periodic measurement)         Collection medium:       Deionised water (closed loop)         Collection medium:       10%)         Test temperature:       (23 ± 1) °C         en       Thickness (mm)△       Breakthrough time (mins)▼         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480         0.09       >480



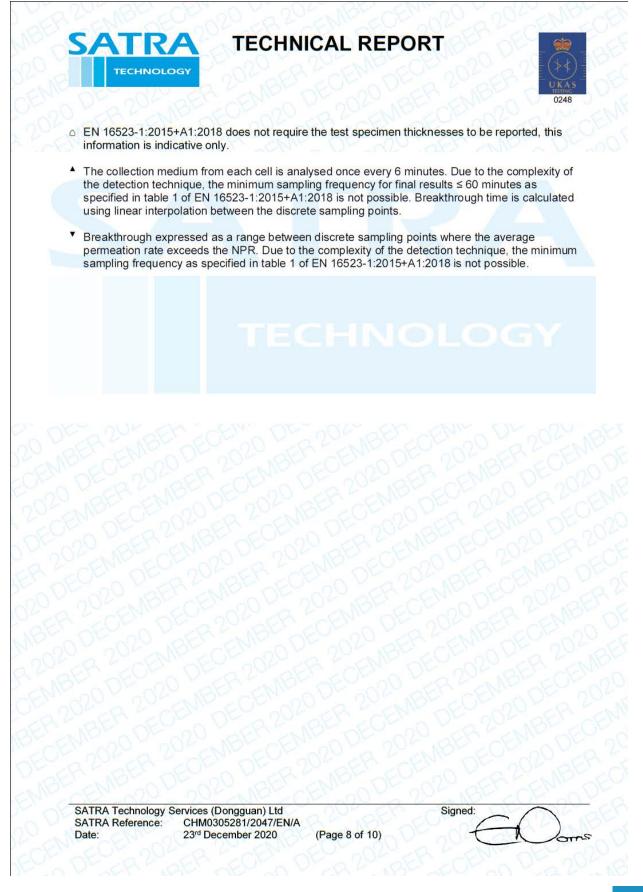
Formaldehyde is determined by discrete sampling; therefore the permeation rate graph is not a smooth curve.

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	Tel: +44 (0) 1536 4	Vay, Kettering, ) United Kingdom \$10000 \$10626 a.com	UKAS 0248
Customer details:	SATRA Technology Services (Dongg Unit 110, Xinzhongyin Garden Hongwei Road Xiping, Nancheng District DONGGUAN CITY Guangdong Province China 523079	Your reference: Date of report: Samples received Date(s) work carried out:	CHM0305281/2047/EN /B CHT0305029 23 <sup>rd</sup> December 2020 20 <sup>th</sup> November 2020 21 <sup>st</sup> to 22 <sup>nd</sup> December 2020
	TECHNICAL	REPORT	
Subject:	y Services (Dongguan) Ltd: Customer:GUANGDONG KIN NO.28 Delong Ave Qingcheng District Qingyuan Guangdong China EN ISO 374-4:2019 determinatior chemicals on gloves described as	nue, Shijiao Town n of resistance to degrada	tion by dangerous
	Gloves, reference number: KG-11		Nithie Examination
	Gloves, reference number: KG-11		e Nithle Examination
Conditions of Issue	MBERDECENO DE 2020 CR 2020 DE		e Nithle Examination
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## **TECHNICAL REPORT**

### WORK REQUESTED:

TECHNOLOGY

Samples of gloves described as Disposable Powder Free Nitrile Examination Gloves, reference number: KG-1101 were received on the 20<sup>th</sup> November 2020 for testing in accordance with EN ISO 374-4:2019.

SAMPLE SUBMITTED:



Samples described as Disposable Powder Free Nitrile Examination Gloves, reference number: KG-1101

#### CONCLUSION:

When assessed in accordance with EN ISO 374-4:2019 the samples of gloves described as Disposable Powder Free Nitrile Examination Gloves, reference number: KG-1101 achieved the following degradation results:

Chemical	Mean degradation / %	
n-Heptane (CAS: 142-82-5)	44.6	
40% Sodium hydroxide (CAS: 1310-73-2)	-5.9	
30% Hydrogen peroxide (CAS: 7722-84-1)	36.4	
37% Formaldehyde (CAS: 50-00-0)	-3.1	

#### TESTING REQUIRED:

• EN ISO 374-4:2019. Protective gloves against dangerous chemicals and micro-organisms. Part 4: Determination of resistance to degradation by chemicals.

SATRA Technology S	Services (Dongguan) Ltd		
SATRA Reference:	CHM0305281/2047/EN/B		
Date:	23 <sup>rd</sup> December 2020	(Page 2 of 6)	





FR 20 MBE ECEN22			
RESULTS:	Disposable P	owder Free Nitrile	e Examinatio
Sample description:	Gloves, reference number: KG-1101		KG-1101
Challenge chemical:	n-He	ptane (CAS: 142-	82-5)
Test temperature / °C:		(23 ± 1)	
Degradation / %:	Glove 1	Glove 2	Glove
•	36.1	45.7	51.9
Mean degradation (DR) / %:	44.6		
Standard deviation $(\sigma_{DR}) / \%$ :	8.0		
UoM / ± %:	12.6		
Appearance of samples after testing:		No change	
Sample description:	Disposable Powder Free Nitrile Examinatio Gloves, reference number: KG-1101		
Challenge chemical:	40% Sodium hydroxide (CAS: 1310-73-2)		
Test temperature / °C:	(23 ± 1)		
Degradation / %:	Glove 1	Glove 2	Glove
	-1.5	-8.6	-7.7
Mean degradation (DR) / %:	-000	-5.9	- OK
Standard deviation (σ <sub>DR</sub> ) / %:	3.9		
UoM / ± %:	9.3		
Appearance of samples after testing:	05-000	No change	NIM
Sample description:	Disposable Powder Free Nitrile Examinatio Gloves, reference number: KG-1101		
Challenge chemical:	30% Hydrogen peroxide (CAS: 7722-84-1)		
Test temperature / °C:	(23 ± 1)		
Degradation / %:	Glove 1	Glove 2	Glove
Degradation / %:	34.0	36.1	39.1
Mean degradation (DR) / %:	36.4		
Standard deviation (σ <sub>DR</sub> ) / %:	- CMIL	2.6	-de
UoM / ± %:	00 230	11.6	NOVE
Appearance of samples after testing:		No change	

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 Date:
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Signed:

TECHNOLOGY	NICAL RI	EPORT		
200 BE COMP	Disposable P	owder Free Nitrile	e Examinatio	
Sample description:	Gloves, reference number: KG-1101			
Challenge chemical:	37% Formaldehyde (CAS: 50-00-0)			
Test temperature / °C:	(23 ± 1)			
Demodetie e / N/	Glove 1	Glove 2	Glove	
Degradation / %:	6.9	-13.7	-2.3	
Mean degradation (DR) / %:		-3.1		
Standard deviation ( $\sigma_{DR}$ ) / %:		10.4	1	
UoM / ± %:		9.3	6 1	
ppearance of samples after testing:		No change		

**NOTE:** Where the test specimens gave an increased puncture force after chemical exposure, the result is reported as a negative degradation.

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 Date:
 23<sup>rd</sup> December 2020
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Contact your KINGFA representative for more information

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