

## TEST REPORT

Revised report.

Report No. : CH:TX:9420047921-1

DATE : 09/10/2018

HEBEI TITANS HONGSEN MEDICAL TECHNOLOGY CO LTD  
EASTERN INDUSTRIAL ZONE NANGONG CITY  
XINGTAI CITY, HEBEI, CHINA 051800  
A/C F619201 SGS-CSTC STANDARDS TECHNICAL SERVICES (TIANJIN) CO., LTD.  
CONTACT PERSON :

THE FOLLOWING SAMPLE(S) WAS/WERE SUBMITTED AND IDENTIFIED BY/ON BEHALF OF THE CUSTOMER AS :

**SAMPLE DESCRIPTION** GLOVES  
LOW WEIGHT POWDER FREE BLUE NITRILE EXAMINATION GLOVES  
**COLOUR** BLUE  
**COUNTRY OF DESTINATION** EUROPE  
**COUNTRY OF ORIGIN** CHINA  
**PHOTO APPENDIX.**



SAMPLE RECD ON

17/09/2018

TESTING PERIOD : 17/09/2018 - 29/09/2018

Summary of Test Results/Conclusion		
Test Method / Standard	Clause/Test Name	Status / Performance Level
EN 420:2003+A1.2009	<b>Protective gloves - General requirements</b>	
	Sizing	Refer enclosed pages.
	Dexterity	Performance level 5
	pH Value	Pass
EN 374-2:2014	<b>Protective gloves against chemicals and micro-organisms: Determination of resistance penetration</b>	
	Clause 4.1 – Air leak test	Pass
	Clause 4.2 – Water leak test	Pass
EN 16523-1:2015	<b>Permeation by Liquid chemical under conditions of continuous contact.</b>	
	Methanol	Level - 0
	Toluene	Level - 0
	Diethylamine	Level - 0
	n-Heptane	Level - 0
	Sodium hydroxide 40%	Level - 6
EN 374-4:2013	<b>Resistance to Degradation by Chemicals</b>	
	Methanol	Refer results.
	Toluene	Refer results.
	Diethylamine	Refer results.
	n-Heptane	Refer results.
	Sulphuric acid 96%	Refer results.

Per pro SGS India Private Ltd.

5.1.2e

Email your Test Report Related Enquiries at [5.1.2e@sgs.com](mailto:5.1.2e@sgs.com)

Test report revised to correct the thickness.

This report cancels and supersedes report no. 9420047921 Dated 29/09/2018 issued by SGS India

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## EN 420 : 2003+A1: 2009 Protective Gloves – General requirements and test methods

Clause	Test Name	Result				Average	Standard sizing
5.1	Sizing Declared size XS	164	162	243	244	163.0	6
	Circumference (mm)						
	Length (mm)						
	Declared size S	175	174	242	241	174.5	6½
	Circumference (mm)						
Length (mm)							
Declared size M	190	192	240	244	191.0	7½	
Circumference (mm)							
Length (mm)							
Declared size L	206	208	240	241	207.0	8	
Circumference (mm)							
Length (mm)							
Declared size XL	224	226	240	242	225.0	8½*	
Circumference (mm)							
Length (mm)							
5.2	Dexterity Smallest Pin Diameter (mm)	5	5	5	5	5	Performance level

\*→ Fit for special purpose.

## EN 374-2 : 2014 Protective gloves against chemicals and micro-organisms – Part-2: Determination of resistance penetration

Clause	Test Name	Test Results		Performance level
4.1	Air leak Test (Air Pressure Used : 0.5 kPa)	Specimen #	Leakage	Pass
		Size XS	No Leakage	
		Size S	No Leakage	
		Size M	No Leakage	
		Size L	No Leakage	
4.2	Water leak test	Specimen #	Leakage	Pass
		Size XS	No Leakage	
		Size S	No Leakage	
		Size M	No Leakage	
		Size L	No Leakage	
		Size XL	No Leakage	

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**pH VALUE**

With reference to ISO 3071:2005/Analysis by pH meter

Extraction Solution : KCL

**GLOVES – BLUE**

Value

6.8

3.5 - 9.5

Note : pH value of extraction medium : 5.0 – 7.5

Temperature of the extraction solution : 25±2°C

Note: Requirements given as per EN 420:2003 +A1:2009 (Clause: 4.3.2).

**EN 16523-1:2015 Determination of material resistance to permeation by chemicals – Part-1: Permeation by Liquid chemical under conditions of Continuous contact.**

Chemical CAS NO	Loop system/collection medium	Analytical technique used	Mean thickness (mm)	NBT at NPR 1.0 $\mu\text{cm}^{-2}\text{min}^{-1}$ (minutes)	Performance level accordance to EN ISO 374-1: 2016 Table 1	Observation
Methanol 67-56-1	Open loop/ Nitrogen	Continuous measurement With GC-FID	0.05 0.04 0.05	<1 <1 <1	Level - 0	Moderate swelling
Toluene 108-88-3	Open loop/ Nitrogen	Continuous measurement With GC-FID	0.04 0.04 0.05	<1 <1 <1	Level - 0	Severe swelling
Diethylamine 109-89-7	Open loop/ Nitrogen	Continuous measurement With PID	0.04 0.05 0.04	<1 <1 <1	Level - 0	Severe swelling
n-Heptane 142-85-5	Open loop/ Nitrogen	Continuous measurement With GC-FID	0.04 0.04 0.05	4 5 6	Level - 0	Slight swelling
Sodium hydroxide 40% 1310-73-2	Closed loop/ Grade 3 water	Continuous measurement With Conductivity electrode	0.05 0.05 0.04	> 480 > 480 > 480	Level - 6	No change
Sulphuric acid 96% 7664-93-9	Closed loop/ Grade 3 water	Continuous measurement With Conductivity electrode	0.04 0.05 0.04	2 3 2	Level - 0	Severe swelling & colour change

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**EN 374-4:2013 Protective Gloves against Chemicals and Micro Organisms – Determination of resistance to degradation by chemicals**

Chemical / CAS NO	Exposure Duration	Test Results		Observation
		Percentage change in puncture resistance		
		Glove sample	Result (%)	
Methanol 67-56-1	60±5 minutes	1	72.3	Severe swelling
		2	58.4	
		3	67.7	
		Mean	66.1	
		Standard Deviation	7.051	
Toluene 108-88-3	60±5 minutes	1	81.4	Severe swelling
		2	78.9	
		3	81.8	
		Mean	80.7	
		Standard Deviation	1.571	
Diethylamine 109-89-7	60±5 minutes	1	94.7	Severe swelling
		2	91.1	
		3	89.2	
		Mean	91.7	
		Standard Deviation	2.826	
n-Heptane 142-85-5	60±5 minutes	1	38.1	Moderate swelling
		2	40.0	
		3	38.1	
		Mean	38.7	
		Standard Deviation	1.096	
Sodium hydroxide 40% 1310-73-2	60±5 minutes	1	-6.0	No change
		2	-15.1	
		3	-4.8	
		Mean	-8.6	
		Standard Deviation	5.662	
Sulphuric acid 98% 7664-93-9	60±5 minutes	1	100	Complete degradation
		2	100	
		3	100	
		Mean	100	
		Standard Deviation	0.000	

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