"NABL ACCREDITED
Certificate No. TC-6176"

TEST REPORT

Report No. : CH:TX:9420041512 **DATE : 28/08/2018**

CEPHAS MEDICAL PRIVATE LIMITED
DP 33, 34, 46 & 47, SIDCO INDUSTRIAL ESTATE (URBAN)
VIRUDHUNAGAR-626103
INDIA
CONTACT PERSON : S.RAVICHANDRAN

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

SAMPLE DESCRIPTION	GLOVES NITRILE FLOCKLINED GLOVES
COLOUR	GREEN
STYLE NO.	MEDIUM(M) - 8 / LARGE(L) - 9 / EXTRA LARGE(XL)-10
END USE	PERSONAL PROTECTIVE
COUNTRY OF DESTINATION	INDIA
COUNTRY OF ORIGIN	INDIA

PHOTO APPENDIX.

SAMPLE RECD ON 10/08/2018 **TESTING PERIOD :** 13/08/2018 - 28/08/2018

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Summary of Test Results/Conclusion		
Test Method / Standard	**Clause/Test Name**	**Status / Performance Level**
BS EN 388:2016	**Protective Gloves against mechanical risks**	
	Clause 6.1- Abrasion Resistance	Performance level 4
	Clause 6.2- Blade Cut Resistance (Coupe test)	Performance level 0
	Clause 6.4- Tear Resistance	Performance level 0
	Clause 6.5- Puncture Resistance	Performance level 1
EN 374-2:2014	**Protective gloves against chemicals and micro-organisms:Determination of resistance pentration**	
	Clause 4.1 – Air leak test	Pass
	Clause 4.2 – Water leak test	Pass
EN 16523-1:2015	**Permeation by Liquid chemical under conditions of continuous contact.**	
	n-Heptane	Level 6
	Sodium hydroxide 40%	Level 6
	Sulphuric acid 96%	Level 3
	Nitric Acid 65%	Level 2
	Acetic Acid 99%	Level 2
EN 374-4:2013	Ammonium hydroxide 25%	Level 4
	Resistance to Degradation by Chemicals	
	n-Heptane	Refer results.
	Sodium hydroxide 40%	Refer results.
	Sulphuric acid 96%	Refer results.
	Nitric Acid 65%	Refer results.
	Acetic Acid 99%	Refer results.
	Ammonium hydroxide 25%	Refer results.
EN 420:2003+A1.2009	**Protective gloves - General requirements**	
	Sizing	Refer enclosed pages.
	Dexterity	Performance level 5
	pH Value	Pass

Per pro SGS India Private Ltd.

K. PACHAIYAPPAN
ASST. MANAGER
Email your Test Report Related Enquiries at Feedback.SLT@sgs.com

SGS India Pvt. Ltd. **Consumer & Retail, 28 B/1 (SP), 28 B/2 (SP), Second Main Road, Ambattur Industrial Estate, Ambattur, Chennai – 600 058. Phone : 91-44-66081600,Fax :91-44-66081700**
Regd & Corp. Off : SGS House, 4B, A.S. Marg, Vikhroli (West), Mumbai-400083. Tel : (022) 66408888 Fax : (022) 66408829 www.sgs.com
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RESULTS

BS EN 388 : 2016 Protective Gloves against mechanical risks

Clause	Test Name	Result	Performance level
6.1	**Abrasion resistance** Protection part : Palm	Sample # Break Through Between /(Rubs) 1 >8000 2 >8000 3 >8000 4 >8000 Observation : Break through not occurred upto 8000 rubs.	Level - 4
6.2	**Blade cut resistance (Coupe test)** Protection part : Palm	Sample # Blade cut Index /(Index) 1: 1.10, 1.10, 1.10, 1.10, 1.09 Mean : 1.10 2: 1.09, 1.09, 1.09, 1.10, 1.09 Mean : 1.09	Level - 0
6.4	**Tear resistance** Protection part : Palm	Sample # Maximum Force/(N) 1 2.6 2 3.1 3 2.7 4 2.2	Level - 0
6.5	**Puncture resistance** Protection part : Palm	Sample # Maximum Force/(N) 1 41.2 2 42.4 3 43.4 4 40.4	Level - 1

Note : Sample not dulling the blade of coupe cut test (number of cycles on control specimen after first sequence of test specimen is greater than 3 times of initial control fabric value)

Requirement as per BS EN 388:2016

Table - 1

Clause/Test Name	Level 1	Level 2	Level 3	Level 4	Level 5
6.1 Abrasion resistance (Number of rubs)	100	500	2000	8000	-
6.2 Coupe test: Blade cut resistance (index)	1.2	2.5	5.0	10.0	20.0
6.4 Tear resistance (N)	10	25	50	75	-
6.5 Puncture resistance (N)	20	60	100	150	-

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

Clause	Test Name	Test Results		Performance level
4.1	Air leak Test (Air Pressure Used : 2.0 kPa)	**Specimen #**	**Leakage**	Pass
		8 9 10 10	No Leakage No Leakage No Leakage No Leakage	
4.2	Water leak test	**Specimen #**	**Leakage**	Pass
		8 9 9 10	No Leakage No Leakage No Leakage No Leakage	

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RESULTS

EN 16523-1:2015 Detrmination 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 µ cm^{-2} min^{-1} (minutes)	Performance level accordance to EN ISO 374-1: 2016 Table 1	Observation
n-Heptane 142-85-5	Open loop/ Nitrogen	Continuous measurement With GC-FID	0.45 0.44 0.45	> 480 > 480 > 480	Level - 6	No change
Sodium hydroxide 40% 1310-73-2	Closed loop/ Grade 3 water	Continuous measurement With Conductivity electrode	0.45 0.44 0.45	> 480 > 480 > 480	Level - 6	No change
Sulphuric acid 96% 7664-93-9	Closed loop/ Grade 3 water	Continuous measurement With Conductivity electrode	0.44 0.45 0.45	72 68 65	Level - 3	Severe swelling & colour change
Nitric Acid 65% 7697-37-2	Closed loop/ Grade 3 water	Continuous measurement With Conductivity electrode	0.44 0.45 0.45	48 52 51	Level - 2	Moderate swelling
Acetic Acid 99% 64-19-7	Closed loop/ Grade 3 water	Continuous measurement With Conductivity electrode	0.45 0.45 0.44	42 44 43	Level - 2	Moderate swelling
Ammonium hydroxide 25% 1336-21-6	Closed loop/ Grade 3 water	Continuous measurement With Conductivity electrode	0.44 0.45 0.45	139 136 144	Level - 4	Slight swelling

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RESULTS

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 Percentage change in puncture resistance		Observation
n-Heptane 142-85-5	60±5 minutes	**Glove sample**	**Result (%)**	No change
		1	32.0	
		2	39.6	
		3	39.1	
		Mean	36.9	
		Standard Deviation	4.251	
Sodium hydroxide 40% 1310-73-2	60±5 minutes	**Glove sample**	**Result (%)**	No change
		1	8.6	
		2	12.7	
		3	13.7	
		Mean	11.7	
		Standard Deviation	2.683	
Sulphuric acid 96% 7664-93-9	60±5 minutes	**Glove sample**	**Result (%)**	Severe swelling and colour change
		1	34.2	
		2	27.6	
		3	39.0	
		Mean	33.6	
		Standard Deviation	5.722	
Nitric Acid 65% 7697-37-2	60±5 minutes	**Glove sample**	**Result (%)**	Severe swelling
		1	87.3	
		2	84.8	
		3	87.1	
		Mean	86.4	
		Standard Deviation	1.394	
Acetic Acid 99% 64-19-7	60±5 minutes	**Glove sample**	**Result (%)**	Moderate swelling
		1	96.1	
		2	93.9	
		3	94.8	
		Mean	94.9	
		Standard Deviation	1.074	
Ammonium hydroxide 25% 1336-21-6	60±5 minutes	**Glove sample**	**Result (%)**	Slight swelling
		1	32.6	
		2	31.8	
		3	31.6	
		Mean	32.0	
		Standard Deviation	0.540	

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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 M Circumference (mm) Length (mm)	 225 330	 226.0 328.0	 8½
	Declared size L Circumference (mm) Length (mm)	 240 320	 238.0 322.5	 9
	Declared size XL Circumference (mm) Length (mm)	 245 330	 244.5 329.0	 9½
5.2	Dexterity Smallest Pin Diameter (mm)	 5 5 5 5	 5	Performance level 5

pH VALUE
With reference to ISO 3071:2005/Analysis by pH meter
Extraction Solution : KCL

GLOVES – GREEN

Value	6.3	3.5 - 9.5

Note : pH value of extraction medium : 5.0 – 7.5
Temperature of the extraction solution : 25±2℃

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

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