

Customer Details: Pusha Safety Ind.
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 Jam Str.
 Tehran
 Iran
 1588663911

For the attention of: Amir E Zargari

Job Reference: SPC0201519/1207/RS
 Date: 6th June 2012
 Your Reference:
 P.O. Number:
 Samples Received: 14th February 2012
 Testing Completed: 6th June 2012

Technical Report

Subject: Samples of gloves described as "PushaPetro" "PushaChem" and "PushaRedcoat" for testing to the pH requirements of EN420:2003+A1 2009, and resistance to chemical permeation in accordance with EN374-3:2003

Conditions of Issue:

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The uncertainty of the results in this report is based on a standard uncertainty multiplied by a coverage factor k=2, which provides for a confidence level of approximately 95%.

Report signed by: R Shaw
 Position: Senior Team Leader
 Department: Chemical & Analytical Technology

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WORK REQUESTED

Samples of gloves as described below were received on the 14th February 2012 for testing in accordance with the innocuousness requirements of EN 420: 2003+A1: 2009 and EN 374: 2003 part 3 with the performance requirements of EN 374 part 1: 2003

SAMPLES RECEIVED:

- PushaRedcoat
- PushaPetro
- PushaChem

TESTS REQUIRED

- EN 374: 2003 part 3 Determination of resistance to permeation by chemicals
- BS EN 420:2003 +A1: 2009 Clause 4.3.2 pH Value (ISO 3071 Textiles & other materials & ISO 4045 for leathers)

CONCLUSIONS

The samples of gloves described as PushaRedcoat, PushaPetro and PushaChem were assessed in accordance with the innocuousness requirements of EN 420: 2003+A1: 2009 and were found to meet with the requirements for pH value. When tested in accordance with EN 374 part 3: 2003 the gloves achieved the following performance levels. Testing was completed on the 6th June 2012. Full results are given in the tables below.

Sample	Chemical	Performance level
PushaPetro	96% Sulphuric acid	5
	n-Heptane	2
PushaChem	96% Sulphuric acid	5
	n-Heptane	2

RESULTS AND REQUIREMENTS

The performance levels are as given in table 1 of EN 374 part 1: 2003 and are based on the lowest individual result achieved per chemical.

EN 374-3: 2003 Table 1. Permeation performance levels

Permeation performance Level	Measured breakthrough Time (minutes)
1	>10 minutes
2	>30 minutes
3	>60 minutes
4	>120 minutes
5	>240 minutes
6	>480 minutes

Test/Property	Specimen	Results		Performance
EN 374-3:2003 Chemical Permeation	PushaPetro	Chemical: 96% Sulphuric acid		Level 5
		Detection system: Conductivity		
		Collection medium: De ionised water		
		Loop system: Closed		
		Test temperature: 23°C		
		Sample thickness (mm)	Breakthrough time (mins)	
Appearance of sample after testing	1	1.24	254	
	2	1.36	362	
	3	1.26	284	
	Mean	1.29	300	
	Lowest result	-	254	

Test/Property	Specimen	Results		Performance
EN 374-3:2003 Chemical Permeation	PushaChem	Chemical: 96% Sulphuric acid		Level 5
		Detection system: Conductivity		
		Collection medium: De ionised water		
		Loop system: Closed		
		Test temperature: 23°C		
		Sample thickness (mm)	Breakthrough time (mins)	
Appearance of sample after testing	1	1.52	294	
	2	1.51	370	
	3	1.32	278	
	Mean	1.45	314	
	Lowest result	-	278	

Test/Property	Specimen	Results		Performance
EN 374-3:2003 Chemical Permeation	PushaPetro	Chemical: n-Heptane		Level 2
		Detection system: GC FID		
		Collection medium: Dry air		
		Loop system: Open		
		Test temperature: 23°C		
		Sample thickness (mm)	Breakthrough time (mins)	
Appearance of sample after testing	1	1.29	46	
	2	1.35	65	
	3	1.21	45	
	Mean	1.28	52	
	Lowest result	-	45	

Appearance of sample after testing

Test/Property **Specimen** **Results** **Performance**

EN 374-3:2003 Chemical Permeation	PushaChem	Chemical: n-Heptane Detection system: GC FID Collection medium: Dry air Loop system: Open Test temperature: 23°C		Level 2
		Sample thickness (mm)	Breakthrough time (mins)	
		1	1.37	
		2	1.41	
		3	1.37	
		Mean	1.38	
Lowest result		-	42	
Appearance of sample after testing	No change			

EN 420: 2003+A1: 2009 Clause 4.3.2 pH value

Sample	Method	Results	UoM	Pass/Fail
PushaRedcoat	ISO 3071: 2005 (water extraction)	6.10	± 0.1	Pass
PushaPetro	ISO 3071: 2005 (water extraction)	6.30	± 0.1	Pass
PushaChem	ISO 3071: 2005 (water extraction)	6.70	± 0.1	Pass
Requirement	Minimum 3.5 maximum 9.5			

The extraction solution temperature was 23°C and at pH 5.35

APPENDICES:

Sample described as PushaRedcoat



Sample described as PushaPetro



Sample described as PushaChem

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Issue Date: 1st October 2009