

Chemical Compatibility Guide for: Safetyflex® Flame-Resistant Apron

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**ASTM F903-10 Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration
by Liquids, Procedure A - Safetyflex fabric**

Challenge Chemical	Replicate	Average Sample Thickness (mm)	Test Temperature (°C)	Results after		Final Results
				5 min @ 0 psig	10 min @ 2 psig	
Acetone	1	0.363	22.1	Pass	Pass	Pass
	2	0.393		Pass	Pass	
	3	0.386		Pass	Pass	
Acetonitrile	1	0.386	22.2	Pass	Pass	Pass
	2	0.403		Pass	Pass	
	3	0.392		Pass	Pass	
Carbon disulfide	1	0.386	22.1	Pass	Pass	Pass
	2	0.391		Pass	Pass	
	3	0.392		Pass	Pass	
Dichloromethane	1	0.391	22.1	Pass	Pass	Pass
	2	0.414		Pass	Pass	
	3	0.402		Pass	Pass	
Diethylamine	1	0.392	22.5	Pass	Pass	Pass
	2	0.402		Pass	Pass	
	3	0.405		Pass	Pass	
Ethyl acetate	1	0.384	22.7	Pass	Pass	Pass
	2	0.392		Pass	Pass	
	3	0.378		Pass	Pass	
n-Hexane	1	0.400	22.7	Pass	Pass	Pass
	2	0.402		Pass	Pass	
	3	0.401		Pass	Pass	
Methanol	1	0.402	22.1	Pass	Pass	Pass
	2	0.395		Pass	Pass	
	3	0.391		Pass	Pass	
Nitrobenzene	1	0.400	22.8	Pass	Pass	Pass
	2	0.399		Pass	Pass	
	3	0.388		Pass	Pass	
Sodium hydroxide	1	0.390	23.1	Pass	Pass	Pass
	2	0.392		Pass	Pass	
	3	0.389		Pass	Pass	
Sulfuric acid, 93%	1	0.395	23.1	Pass	Pass	Pass
	2	0.396		Pass	Pass	
	3	0.396		Pass	Pass	
Tetrachloroethylene	1	0.409	23.2	Pass	Pass	Pass
	2	0.420		Pass	Pass	
	3	0.411		Pass	Pass	
Tetrahydrofuran	1	0.395	22.1	Pass	Pass	Pass
	2	0.404		Pass	Pass	
	3	0.409		Pass	Pass	
Toluene	1	0.411	22.1	Pass	Pass	Pass
	2	0.403		Pass	Pass	
	3	0.413		Pass	Pass	

* Testing finalized 2 October 2015

ASTM F739-12 Standard Test Method for Resistance of Protective Clothing Materials to Permeation by Liquids or Gases under Conditions of Continuous Contact - Safetyflex fabric

Challenge Chemical	Replicate	Average Sample Thickness (mm)	Test Temperature (°C)	Normalized Breakthrough Time (min)	Maximum Permeation Rate (µg/cm ² /min)	Minimum Detectable Rate (µg/cm ² /min)
Sodium Hydroxide (50%)	1	NA	27.0	>480	NA	0.025
	2	NA	27.0	>480	NA	
	3	NA	27.0	>480	NA	
Sulfuric Acid (98%)	1	NA	27.0	72	NA	0.025
	2	NA	27.0	72	NA	
	3	NA	27.0	66	NA	

* Testing finalized 30 April 2018

Challenge Chemical	Replicate	Average Sample Thickness (mm)	Test Temperature (°C)	Normalized Breakthrough Time (min)	Maximum Permeation Rate (µg/cm ² /min)	Minimum Detectable Rate (µg/cm ² /min)
Ethylene oxide, (Gas)	1	0.394	27.0	9	NA	0.01
	2	0.398	27.0	9	NA	
	3	0.394	27.0	9	NA	

* Testing finalized 2 October 2015

Detailed test results are available upon request