

Ansell

## AnsellGUARDIAN<sup>®</sup> Chemical Report

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## Disclaimer

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In this report, you will find information related to the barrier performance of certain personal protective equipment (PPE) against the chemicals you selected. This information is intended to enable the Health and Safety professional at your organization make more informed decisions about the Ansell PPE that may offer the greatest protection in the intended circumstances and assist with carrying out a risk assessment for your organization.

We wish to highlight that permeation times do not equate to safe wear time. Safe wear time may vary depending on whether the PPE is donned correctly, the surrounding temperature, the chemicals' toxicity, and other factors. Permeation information offered here is limited to the main protective material. Permeation times may vary around seams, zips, visors or any other joins or components of the PPE. It is the responsibility of your organization's Health and Safety professional to undertake a risk assessment before choosing the appropriate PPE for the task at hand. If you want to discuss any aspect in detail, please contact us.

*Estimations of the barrier properties of PPE are based on currently available data and extrapolations from laboratory test results and information regarding the chemicals' composition. Synergistic effects of mixing chemicals have not been accounted for. Estimations are subject to change if new testing is carried out or new information is available providing better grounds for extrapolations. For these reasons, any information in this report is provided for informational purposes only and Ansell fully disclaims any liability including warranties related to any statement contained herein.*

# Legend for Body Protection

Permeation Barrier Performance	
<div></div>	No Barrier
<div></div>	Splash/Limited Barrier
<div></div>	Medium Barrier
<div></div>	Good Barrier

## Permeation Breakthrough Times - $BT_{1.0}$

The  $BT_{1.0}$  is the time taken (in minutes) for the chemical in question to be permeating through the material at a rate of 1.0  $\mu\text{g}/\text{cm}^2/\text{min}$ . this can be determined with a number of standard test methods including EN 16523-1 and ISO 6529. It is commonly utilized mainly within the regions concerned with EN and ISO standards.

## Permeation Breakthrough Times - $BT_{0.1}$

The  $BT_{0.1}$  is the time taken (in minutes) for the chemical in question to be permeating through the material at a rate of 0.1  $\mu\text{g}/\text{cm}^2/\text{min}$ . this can be determined with a number of standard test methods including ASTM F739. It is commonly utilized mainly within the regions concerned with ASTM standards.



## Cumulative Permeation

Cumulative permeation (as opposed to breakthrough times) deals with the amount of chemical permeating through the material, and not the speed (rate) as with the breakthrough times. The two results concerned with this for ISO 16602 are: CPt, the time in minutes it takes for the cumulative permeation to reach 150  $\mu\text{g}/\text{cm}^2$ , and CP, the cumulative permeation (in  $\mu\text{g}/\text{cm}^2$ ) by the end of the test (usually 480 minutes).



































PS = Physical State: A = Aerosol, G = Gas, L = Liquid, P = Paste, S = Solid



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CAS	Chemical Name	%	PS	BT <sub>1.0</sub>	BT <sub>0.1</sub>	cumulative	
						CPT	CP
107-06-2	1,2-Dichloroethane	100.0	L	4' 			
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane	100.0	L	251' 			
367-25-9	2,4-difluoroaniline	100.0	L	>480' 			
5683-33-0	2-Dimethylaminopyridine	100.0	L	57' 			
149-57-5	2-Ethylhexanoic acid	100.0	L	>480' 			
64-19-7	Acetic acid	100.0	L	>480' 	23' 	380' 	195' 
108-24-7	Acetic anhydride	100.0	L	>480' 			
67-64-1	Acetone	100.0	L	28' 	5' 		
75-05-8	Acetonitrile	100.0	L	<6' 	1' 		
107-02-8	Acroleine, contains hydroquinone as stabilizer, 90%	90.0	L	<1' 		31' 	1861' 
107-02-8	Acrylaldehyde	100.0	L	1' 	0' 	31' 	1861' 
79-06-1	Acrylamide	100.0	S	>480' 			
79-06-1	Acrylamide, aqueous solution	40.0	L	>480' 			
79-10-7	Acrylic acid	100.0	L	>480' 			
107-18-6	Allyl alcohol	100.0	L	>480' 	77' 	>480' 	51.2' 
7664-41-7	Ammonia, gas	100.0	G	3' 	1' 		
1341-49-7	Ammonium Bifluoride, sat. sol.	38.0	L	>480' 	480' 	>480' 	<28.8' 



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













CAS	Chemical Name	%	PS	BT <sub>1.0</sub>	BT <sub>0.1</sub>	cumulative	
						CPT	CP
1336-21-6	Ammonium Hydroxide	20.0	L	>480' c	6' c		
1336-21-6	Ammonium hydroxide	25.0	L	>480' c	6' c	>480'   79' c	
62-53-3	Aniline	100.0	L	>480' v	22' v	233'   346' v	
71-43-2	Benzene	100.0	L	2' c			
98-09-9	Benzenesulfonyl Chloride	100.0	L	>480' c			
100-44-7	Benzyl chloride	100.0	L	16' c			
7726-95-6	Bromine	100.0	L	2' c			
141-32-2	Butyl acrylate	100.0	L	16' c			
75-15-0	Carbon disulfide	100.0	L	<1' c	1' c		
7782-50-5	Chlorine, aqueous solution in water	1.0	L	2' c			
7782-50-5	Chlorine, gas	100.0	G	10' c	9' c		
79-04-9	Chloroacetic Chloride	100.0	L	36' c			
107-07-3	Chloroethanol	100.0	L	>480' c			
67-66-3	Chloroform	100.0	L	<1' c			
1333-82-0	Chromic acid, aqueous solution	50.0	L	>480' c	480' c	>480'   <43.2' c	
8007-45-2	Coal tar	100.0	L	>240' v	93' v	>240'   44' v	
1319-77-3	Cresol, isomeric mixture	100.0	L	>480' c			



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








CAS	Chemical Name	%	PS	BT <sub>1.0</sub>	BT <sub>0.1</sub>	cumulative CPT   CP
52315-07-8	Cypermethrin	100.0	S	>480' 		
124-18-5	Decane	100.0	L	2' 	1' 	11'   2107' 
75-09-2	Dichloromethane	100.0	L	0' 	0' 	
68334-30-5	Diesel fuel	100.0	L	15' 		
109-89-7	Diethylamine	100.0	L	0' 	0' 	
60-29-7	Diethylether	100.0	L	<1' 		
624-49-7	Dimethyl fumarate	100.0	S	>480' 	480' 	>480'   <24' 
124-40-3	Dimethylamine, aqueous solution	40.0	L	>480' 		
68-12-2	Dimethylformamide	100.0	L	>480' 	53' 	>480'   95' 
77-78-1	Dimethylsulfate	100.0	L	>480' 		
85-00-7	Diquat dibromide	100.0	S	>480' 		
112-40-3	Dodecane	100.0	L	6' 	3' 	40'   750' 
106-89-8	Epichlorohydrin	100.0	L	>480' 	12' 	
75-08-1	Ethanethiol	100.0	L	1' 	1' 	
141-43-5	Ethanolamine	100.0	L	>480' 	480' 	>480'   <33.6' 
141-78-6	Ethyl acetate	100.0	L	3' 	1' 	
107-21-1	Ethylene Glycol	100.0	L	>480' 		



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CAS	Chemical Name	%	PS	BT <sub>1.0</sub>	BT <sub>0.1</sub>	cumulative CPT   CP
50-00-0	Formaldehyde	50.0	L	>480' 		
50-00-0	Formaldehyde	37.0	L	>480' 		
64-18-6	Formic acid	90.0	L	>480' 		
64-18-6	Formic acid	98.0	L	>480' 	480' 	>480'   <9.6' 
98-01-1	Furaldehyde	100.0	L	>480' 		
8006-61-9	Gasoline, natural	100.0	L	2' 		
38641-94-0	Glyphosate isopropylamine salt	100.0	S	>480' 		
142-82-5	Heptane	100.0	L	0' 	0' 	
124-09-4	Hexamethylene diamine	100.0	S	>480' 		
822-06-0	Hexamethylene diisocyanate	100.0	L	>480' 	480' 	>480'   <48' 
7803-57-8	Hydrazine monohydrate, 64%-65% hydrazine	98.0	L	>480' 		
7647-01-0	Hydrochloric acid	37.0	L	>480' 	193' 	>480'   
74-90-8	Hydrocyanic acid	100.0	L	<3' 	3' 	113'   
7664-39-3	Hydrofluoric Acid	49.0	L	>480' 	407' 	>480'   33.7' 
7664-39-3	Hydrofluoric Acid	51.0	L	>480' 	407' 	
7664-39-3	Hydrofluoric Acid	75.0	L	273' 	13' 	264'   >150' 

































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CAS	Chemical Name	%	PS	BT <sub>1.0</sub>	BT <sub>0.1</sub>	cumulative CPT   CP
10035-10-6	Hydrogen bromide, aqueous solutions	48.0	L	>480' 		
7647-01-0	Hydrogen chloride	100.0	G	8' 	0' 	
7722-84-1	Hydrogen peroxide	35.0	L	>480' 		
7722-84-1	Hydrogen peroxide	50.0	L	>480' 		
7553-56-2	Iodine	100.0	S	>480' 		
74-88-4	Iodomethane	100.0	L	>480' 		
7705-08-0	Iron (III) chloride, saturated solution	50.0	L	>480' 	480' 	>480'   <14.4' 
67-63-0	Isopropanol	100.0	L	>480' 		
108-38-3	m-Xylene	100.0	L	2' 		
7439-97-6	Mercury	100.0	L	>480' 	480' 	>480'   <24' 
67-56-1	Methanol	100.0	L	>480' 	4' 	364'   
625-45-6	Methoxyacetic acid	100.0	L	>480' 		
71-36-3	n-Butanol	100.0	L	>480' 		
110-54-3	n-Hexane	100.0	L	0' 	0' 	
872-50-4	N-Methyl-2-pyrrolidone	100.0	L	>480' 	480' 	>480'   <4.8' 
111-84-2	n-Nonane	100.0	L	<1' 	1' 	6'   5934' 


































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CAS	Chemical Name	%	PS	BT <sub>1.0</sub>	BT <sub>0.1</sub>	cumulative CPT   CP
111-65-9	n-Octane	100.0	L	<1' 	1' 	4'   136056' 
1120-21-4	n-Undecane	100.0	L	3' 	1' 	27'   3672' 
7697-37-2	Nitric acid	70.0	L	>480' 	480' 	>480'   <14.4' 
98-95-3	Nitrobenzene	100.0	L	>480' 	48' 	>480'   135' 
95-53-4	o-Toluidine	100.0	L	>480' 		
8014-95-7	Oleum, 20% SO <sub>3</sub>	20.0	L	60' 	16' 	>70'   >29' 
8014-95-7	Oleum, 30% SO <sub>3</sub>	30.0	L	21' 	21' 	>28'   >21' 
144-62-7	Oxalic acid, sat. sol	10.0	L	>480' 	480' 	>480'   
106-42-3	p-Xylene	100.0	L	<1' 	1' 	<3'   >218' 
7601-90-3	Perchloric acid	30.0	L	>480' 	480' 	
108-95-2	Phenol	90.0	L	>480' 	480' 	>480'   <10' 
7664-38-2	Phosphoric acid	85.0	L	>480' 	480' 	>480'   <24' 
10025-87-3	Phosphoric trichloride	100.0	L	9' 		
10026-13-8	Phosphorus pentachloride	100.0	S	>480' 		



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CAS	Chemical Name	%	PS	BT <sub>1.0</sub>	BT <sub>0.1</sub>	cumulative CPT   CP
25322-68-3	Polyethylene glycol, molar mass 200- 600	99.0	L	>480' 		
1310-58-3	Potassium Hydroxide, aqueous solutions	86.0	L	>480' 	480' 	>480'   <19.2' 
1310-58-3	Potassium Hydroxide, aqueous solutions	30.0	L	>480' 	480' 	>480'   <19.2' 
123-38-6	Propionaldehyde	100.0	L	<2' 	1' 	33'   
110-86-1	Pyridine	100.0	L	17' 	8' 	
7681-38-1	Sodium bisulfate, sat. solution	40.0	L	>480' 		
7647-14-5	Sodium chloride	100.0	S	>480' 		
143-33-9	Sodium cyanide, sat.sol	37.0	L	>480' 		
7681-49-4	Sodium fluoride, saturated solutions	4.0	L	>480' 		
16893-85-9	Sodium Fluorosilicate, sat. solution	1.0	L	>480' 		
1310-73-2	Sodium Hydroxide	40.0	L	>480' 	480' 	>480'   <32.6' 
1310-73-2	Sodium Hydroxide, sat. sol.	50.0	L	>480' 	480' 	>480'   <33' 
7681-52-9	Sodium Hypochlorite, aqueous solution	15.0	L	>480' 	480' 	>480'   <19.7' 
100-42-5	Styrene	100.0	L	<1' 	1' 	3'   
7664-93-9	Sulfuric acid	99.0	L	>480' 		



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CAS	Chemical Name	%	PS	BT <sub>1.0</sub>	BT <sub>0.1</sub>	cumulative	
						CPT	CP
7664-93-9	Sulfuric acid	96.0	L	>480'	480'	>480'   <24.5'	
1634-04-4	Tert-Butyl Methyl Ether	100.0	L	1'			
109-99-9	Tetrahydrofuran	100.0	L	<1'	1'		
75-59-2	Tetramethylammonium Hydroxide	20.0	L	>480'	480'	>480'   <33.6'	
7719-09-7	Thionyl chloride	100.0	L	<1'			
1758-73-2	Thiourea Dioxide sat. solution	3.0	L	>480'			
7550-45-0	Titanium tetrachloride	100.0	L	7'	1'	35'   >150'	
108-88-3	Toluene	100.0	L	<1'	1'		
584-84-9	Toluene-2,4-diisocyanate	100.0	L	>480'			
156-60-5	trans-1,2-Dichloroethylene	100.0	L	2'			
76-03-9	Trichloroacetic acid	100.0	S	>480'			
79-01-6	Trichloroethylene	100.0	L	2'			
121-44-8	Triethylamine	100.0	L	<1'			
76-05-1	Trifluoroacetic acid	100.0	L	>480'			
75-98-9	Trimethylacetic acid	100.0	S	>480'			
2177-18-6	Vinyl acrylate	100.0	L	3'			
92062-35-6	White mineral oil (petroleum), light	100.0	L	25'			
7699-45-8	Zinc Bromide, saturated solution	83.0	L	>480'			



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CAS	Chemical Name	%	PS	BT <sub>1.0</sub>	BT <sub>0.1</sub>	cumulative	
						CPT	CP
	3-Chloropropanoic acid (CAS# 107-94-8, 50 C)		L	>480' c	37' c	318' c	237'
	Phenol (CAS#108-95-2, 45 C, molten)		L	7' c	1' c	152' c	
	Sodium Hydroxide 50% (CAS# 1310-73-2, 80 C)		L	>480' c	480' c	>480' c	<26'
	Sulphuric acid 50% (CAS# 7664-93-9, 80 C)		L	>480' c	480' c	>480' c	<10'
	Trichloroacetic acid (CAS# 76-03-9, 59 C)		L	>480' c			