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AnsellGUARDIAN[®] Chemical Report

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Disclaimer

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 µg /cm²/min. This can be determined with a number of standard test methods including EN 16523-1 and ISO 6529. It is commonly used 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 µg /cm²/min. This can be determined with a number of standard test methods including ASTM F739. It is commonly used 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 µg /cm², and CP, the cumulative permeation (in µg /cm²) 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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Brand : AlphaTec®

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CPt = Cumulative Permeation Times (in minutes) CP = Cumulative Permeation (in $\mu\text{g}/\text{cm}^2$)

CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative CPT CP
513-88-2	1,1-Dichloroacetone	100.0	L	>480' c		
107-06-2	1,2-Dichloroethane	100.0	L	>480' c	480' c	>480' <9.6' c
106-99-0	1,3-Butadiene	100.0	G	>480' c	480' c	>480' <5.4' c
534-07-6	1,3-dichloroacetone	100.0	L	>480' c		
109-65-9	1-bromobutane	100.0	L	>480' c	480' c	>480' <24' c
106-94-5	1-Bromopropane	100.0	L	89' c	53' c	170' c
592-41-6	1-Hexene	100.0	L	>480' c	480' c	>480' <9.6' c
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane	100.0	L	380' c		
367-25-9	2,4-difluoroaniline	100.0	L	>480' c		
70258-18-3	2-Chloro-5-(chloromethyl)pyridine	100.0	L	>480' c		
920-37-6	2-Chloroacrylonitrile	100.0	L	>480' c		
95-49-8	2-Chlorotoluene	100.0	L	>480' c		
149-57-5	2-Ethylhexanoic acid	100.0	L	>480' c		
328-84-7	3,4-Dichlorobenzotrifluoride	100.0	L	>480' c		
3268-49-3	3-(Methylthio)-propionaldehyde	100.0	L	>480' c	480' c	
36768-62-4	4-Amino-2,2,6,6-tetramethylpiperidine	100.0	L	>480' c		
106-43-4	4-Chlorotoluene	100.0	L	>480' c		



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative	
						CPT	CP
1592-20-7	4-Vinylbenzyl chloride	100.0	L	>480' c			
64-19-7	Acetic acid	100.0	L	>480' c			
108-24-7	Acetic anhydride	100.0	L	>480' c			
67-64-1	Acetone	100.0	L	>480' c	127' c		
75-05-8	Acetonitrile	100.0	L	>480' c	480' c		
107-02-8	Acroleine, contains hydroquinone as stabilizer, 90%	90.0	L	>480' v		>480' <48' v	
107-02-8	Acrylaldehyde	100.0	L	>480' v	480' v	>480' 8' v	
79-06-1	Acrylamide	100.0	S	>480' v			
79-06-1	Acrylamide, aqueous solution	40.0	L	>480' c			
79-10-7	Acrylic acid	100.0	L	>480' c			
107-13-1	Acrylonitrile	100.0	L	>480' c			
107-18-6	Allyl alcohol	100.0	L	>480' c	480' c	>480' <9.6' c	
7664-41-7	Ammonia, gas	100.0	G	>480' c	11' c	>480' 71' c	
1341-49-7	Ammonium Bifluoride, sat. sol.	38.0	L	>480' c	480' c	>480' <28.8' c	
1336-21-6	Ammonium hydroxide	28.0	L	>480' c			
1336-21-6	Ammonium hydroxide	35.0	L	356' c	13' c	268' c	



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative CPT CP
628-63-7	Amyl acetate	100.0	L	>480' c		
62-53-3	Aniline	100.0	L	>480' c		
71-43-2	Benzene	100.0	L	>480' v	480' v	>480' <7.2' v
100-44-7	Benzyl chloride	100.0	L	>480' c	480' c	>480' <9.6' c
111-44-4	Bis(2-chloroethyl) ether	100.0	L	>480' c		
7726-95-6	Bromine	100.0	L	10' c		
141-32-2	Butyl acrylate	100.0	L	>480' c		
75-15-0	Carbon disulfide	100.0	L	2' c	1' c	
7782-50-5	Chlorine, aqueous solution in water	1.0	L	>480' c		
7782-50-5	Chlorine, gas	100.0	G	>480' c	454' c	>480' <15' c
79-04-9	Chloroacetic Chloride	100.0	L	>480' c	342' c	>480' <41' c
108-90-7	Chlorobenzene	100.0	L	>480' c	480' c	
67-66-3	Chloroform	100.0	L	11' c		
7790-94-5	Chlorosulfonic acid	100.0	L	69' c		
1333-82-0	Chromium trioxide, aqueous solution	50.0	L	>480' c		>480' <43.2' c
8007-45-2	Coal tar	100.0	L	>480' c		
108-39-4	Cresol (m-), sat. sol.	3.0	L	>480' c		



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative CPT CP
95-48-7	Cresol (o-)	2.0	L	>480' c		
106-44-5	Cresol (p-)	2.0	L	>480' c		
108-91-8	Cyclohexylamine	100.0	L	82' c	55' c	
52315-07-8	Cypermethrin	100.0	S	>480' c		
106-93-4	Dibromoethane	100.0	L	>480' c	409' c	>480' 66.9' c
79-36-7	Dichloroacetyl chloride	100.0	L	13' v	11' v	23' 102924' v
75-78-5	Dichlorodimethylsilane	100.0	L	234' c	171' c	286' c
75-09-2	Dichloromethane	100.0	L	5' v	3' v	23' 8383' v
75-54-7	Dichloromethylsilane	100.0	L	20' c		
68334-30-5	Diesel fuel	100.0	L	>480' c		
111-42-2	Diethanolamine	100.0	L	>480' c		
109-89-7	Diethylamine	100.0	L	2' c	1' c	8' c
111-40-0	Diethylenetriamine	100.0	L	>480' c		
60-29-7	Diethylether	100.0	L	>480' v	8' v	396' 191.6' v
4525-33-1	Dimethyl dicarbonate	100.0	L	>480' c		
624-49-7	Dimethyl fumarate	100.0	S	>480' c	480' c	



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative CPT CP
77-78-1	Dimethyl sulfate	100.0	L	>480' c		
75-18-3	Dimethyl sulfide	100.0	L	4' c	1' c	34' c
67-68-5	Dimethyl Sulfoxide	100.0	L	>480' c		
124-40-3	Dimethylamine, aqueous solution	40.0	L	>480' c		
68-12-2	Dimethylformamide	100.0	L	>480' c	480' c	>480' c <4.5'
123-91-1	Dioxane	100.0	L	>480' c	426' c	>480' c <26'
34590-94-8	Dipropylene glycol monomethyl ether	100.0	L	>480' c		
56-18-8	Dipropylenetriamine	100.0	L	>480' c		
85-00-7	Diquat dibromide	100.0	S	>480' c		
106-89-8	Epichlorohydrin	100.0	L	>480' c		
75-08-1	Ethanethiol	100.0	L	>480' c	16' c	>480' c 116'
64-17-5	Ethanol	100.0	L	>480' c	480' c	
141-43-5	Ethanolamine	100.0	L	>480' c		
563-12-2	Ethion	100.0	L	>480' c		
141-78-6	Ethyl acetate	100.0	L	>480' c	40' c	
105-39-5	Ethyl chloroacetate	100.0	L	>480' c		
56-38-2	Ethyl Parathion	100.0	L	>480' c		



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative	
						CPT	CP
100-41-4	Ethylbenzene	100.0	L	>480' c			
107-15-3	Ethylene diamine	100.0	L	>480' c			
107-21-1	Ethylene Glycol	100.0	L	>480' c			
75-21-8	Ethylene Oxide	100.0	G	>480' c	480' c		
462-06-6	Fluorobenzene	100.0	L	>480' c	480' c		
50-00-0	Formaldehyde	37.0	L	>480' c	480' c	>480' c	
50-00-0	Formaldehyde	50.0	L	>480' c	480' c	>480' c	
64-18-6	Formic acid	90.0	L	>480' c			
68476-33-5	Fuel oil tank bottoms	100.0	L	>480' c			
98-01-1	Furaldehyde	100.0	L	>480' c			
8006-61-9	Gasoline, natural	100.0	L	>480' c			
38641-94-0	Glyphosate isopropylamine salt	100.0	S	>480' c			
142-82-5	Heptane	100.0	L	>480' c	344' c		
87-68-3	Hexachlorobutadiene	100.0	L	>480' c	480' c		
16961-83-4	Hexafluorosilicic acid	35.0	L	>480' c	480' c	>480' <19.2' c	
999-97-3	Hexamethyldisilazane	100.0	L	>480' c			
7803-57-8	Hydrazine monohydrate, 64%-65% hydrazine	98.0	L	>480' c			



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative CPT CP
7647-01-0	Hydrochloric acid	37.0	L	>480' v	480' v	>480' <19.2' v
74-90-8	Hydrocyanic acid	100.0	L	>480' c	159' c	>480' 54' c
7664-39-3	Hydrofluoric Acid	37.0	L	>480' c		
7664-39-3	Hydrofluoric Acid	75.0	L	>429' c	175' c	
10035-10-6	Hydrogen bromide, aqueous solutions	48.0	L	>480' c	480' c	
7647-01-0	Hydrogen chloride	100.0	G	>480' c	125' c	
7664-39-3	Hydrogen fluoride, gaseous	100.0	G	42' c		
7722-84-1	Hydrogen peroxide	35.0	L	>480' c		
7783-06-4	Hydrogen sulphide	100.0	G	>480' c	480' c	
67-63-0	Isopropanol	100.0	L	>480' c		
98-82-8	Isopropylbenzene	100.0	L	>480' c	480' c	>480' <7.7' c
108-38-3	m-Xylene	100.0	L	>480' c	480' c	>480' <24' c
1477-55-0	m-Xylylenediamine	100.0	L	>480' c		
121-75-5	Malathion	100.0	L	>480' c		
108-31-6	Maleic anhydride	100.0	S	>480' c		
7439-97-6	Mercury	100.0	L	>480' c	480' c	>480' <24' c



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative	
						CPt	CP
124-63-0	Methanesulfonyl chloride	100.0	L	>480' c	480' c	>480' c	<19.2'
67-56-1	Methanol	100.0	L	>480' c	480' c		
74-83-9	Methyl bromide	100.0	G	>480' c	480' c	>480' c	<19.2'
74-87-3	Methyl chloride	100.0	G	>480' c	480' c	>480' c	<11'
79-22-1	Methyl chloroformate	100.0	L	>480' c			
78-93-3	Methyl ethyl ketone	100.0	L	>480' c	53' c		
80-62-6	Methyl methacrylate	100.0	L	>480' c	480' c		
298-00-0	Methyl Parathion	100.0	S	>480' c			
75-79-6	Methyltrichlorosilane	100.0	L	>480' c	480' c	>480' c	<9.6'
127-19-5	N,N-Dimethylacetamide	100.0	L	>480' c			
71-36-3	n-Butanol	100.0	L	>480' c			
110-54-3	n-Hexane	100.0	L	>480' c	480' c		
872-50-4	N-Methyl-2-pyrrolidone	100.0	L	>480' c			
54-11-5	Nicotine	100.0	L	>480' c			
7697-37-2	Nitric acid	70.0	L	>480' c	480' c		
7697-37-2	Nitric acid, fuming	100.0	L	>480' c	480' c		
98-95-3	Nitrobenzene	100.0	L	>480' c	480' c	>480' c	<11'



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative	
						CPt	CP
10102-43-9	Nitrogen monoxide	100.0	G	>480' c	480' c	>480' c	<24'
95-53-4	o-Toluidine	100.0	L	>480' c			
5283-66-9	Octyltrichlorosilane	100.0	L	198' c			
8014-95-7	Oleum, 20% SO ₃	20.0	L	298' c	248' c	368' c	>150'
8014-95-7	Oleum, 30% SO ₃	30.0	L	80' c	59' c	132' c	>150'
8014-95-7	Oleum, 40% SO ₃	40.0	L	48' c	27' c	88' c	
8014-95-7	Oleum, 65% SO ₃	65.0	L	17' c	11' c	39' c	>150'
79-37-8	Oxalyl chloride	100.0	L	>480' c	480' c	>480' c	<24'
108-95-2	Phenol	90.0	L	>480' c	480' c		
75-44-5	Phosgene	100.0	G	387' c			
7664-38-2	Phosphoric acid	85.0	L	>480' c			
10025-87-3	Phosphoric trichloride	100.0	L	>480' c	480' c	>480' c	<2.4'
10026-13-8	Phosphorus pentachloride	100.0	S	>480' c			
7719-12-2	Phosphorus Trichloride	100.0	L	>480' c			
28324-52-9	Pinanyl hydroperoxide	100.0	L	>480' c	480' c	>480' c	<43.2'



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative CPT CP
25322-68-3	Polyethylene glycol, molar mass 200- 600	99.0	L	>480' c		
115-07-1	Propene	100.0	G	>480' c	480' c	>480' <9.6' c
123-38-6	Propionaldehyde	100.0	L	>480' c		>411' >146' v
79-09-4	Propionic acid	100.0	L	>480' c		
107-12-0	Propionitrile	100.0	L	>480' c		
75-56-9	Propylene Oxide	100.0	L	17' c	3' c	
110-86-1	Pyridine	100.0	L	>469' c	111' c	361' 258' c
91-22-5	Quinoline	100.0	L	>480' c	480' c	>480' <38.4' c
10026-04-7	Silicium tetrachloride	100.0	L	>480' v	428' v	>480' <14.3' v
7647-14-5	Sodium chloride	100.0	S	>480' c		
143-33-9	Sodium cyanide, sat.sol	37.0	L	>480' c		
7681-49-4	Sodium fluoride, saturated solutions	4.0	L	>480' c		
16893-85-9	Sodium Fluorosilicate, sat. solution	1.0	L	>480' c		
207683-19-0	Sodium hydrosulfide hydrate, sat. sol.	39.0	L	>480' c	480' c	>480' <24' c
1310-73-2	Sodium Hydroxide	40.0	L	>480' c	480' c	
1310-73-2	Sodium Hydroxide, sat. sol.	50.0	L	>480' c	480' c	>480' <33' c



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative	
						CPT	CP
7681-52-9	Sodium Hypochlorite, aqueous solution	15.0	L	>480' c	480' c	>480' c	<19.7'
100-42-5	Styrene	100.0	L	303' c	191' c	310' c	
7446-09-5	Sulfur dioxide	100.0	G	>480' c			
7446-11-9	Sulfur trioxide	100.0	L	18' c	8' c	40' c	>150'
7664-93-9	Sulfuric acid	50.0	L	>480' c	480' c		
7664-93-9	Sulfuric acid	96.0	L	>480' c	480' c		
7664-93-9	Sulfuric acid	99.0	L	>480' c			
1634-04-4	Tert-Butyl Methyl Ether	100.0	L	>480' c			
110-05-4	tert-Butylperoxide	100.0	L	>480' c	480' c		
25103-58-6	tert-Dodecylthiol	100.0	L	>480' c	480' c	>480' c	<24'
127-18-4	Tetrachloroethylene	100.0	L	>480' c	222' c	>480' c	42'
78-00-2	Tetraethyl lead	100.0	L	>480' c	480' c	>480' c	<4.8'
109-99-9	Tetrahydrofuran	100.0	L	4' c	1' c		
75-59-2	Tetramethylammonium Hydroxide	25.0	L	>480' c			
7719-09-7	Thionyl chloride	100.0	L	2' c			
1758-73-2	Thiourea Dioxide sat. solution	3.0	L	>480' c			



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CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative	
						CPT	CP
7550-45-0	Titanium tetrachloride	100.0	L	>480' c	173' c	>480' c	
108-88-3	Toluene	100.0	L	>480' v	480' v	>480' v	26.9'
584-84-9	Toluene-2,4-diisocyanate	100.0	L	>480' c			
79-01-6	Trichloroethylene	100.0	L	7' c		11' v	
98-13-5	Trichlorophenylsilane	100.0	L	>480' c	480' c	>480' c	<14.4'
10025-78-2	Trichlorosilane	100.0	L	>480' v	451' v	>480' v	<50.8'
121-44-8	Triethylamine	100.0	L	5' c			
1493-13-6	Trifluoromethanesulfonic acid	100.0	L	>480' c	480' c	>480' c	<28.8'
75-98-9	Trimethylacetic acid	100.0	S	>480' c			
108-05-4	Vinyl acetate	100.0	L	>480' c	480' c	>480' c	<11'
2177-18-6	Vinyl acrylate	100.0	L	>480' c			
75-01-4	Vinyl chloride	100.0	G	>480' c	480' c	>480' c	<24'
92062-35-6	White mineral oil (petroleum), light	100.0	L	>480' c			
	2-Chloro-5-(chloromethyl)pyridine (CAS# 70258-18-3, 60-65 C, molten)		L	>480' c			



Product Group: 4000
Brand : AlphaTec®

Colored cells with numbers and the symbol **c** correspond to experimentally determined data generated by an external accredited laboratory. Colored cells with numbers and the symbol **v** correspond to experimentally determined data generated by an internal accredited laboratory.

CPT = Cumulative Permeation Times (in minutes) CP = Cumulative Permeation (in $\mu\text{g}/\text{cm}^2$)

CAS	Chemical Name	%	PS	BT _{1.0}	BT _{0.1}	cumulative	
						CPT	CP
	3-Chloropropanoic acid (CAS# 107-94-8, 50 C)		L	>480' c	160' c	>480' c	97'
	4-chloronitrobenzene (CAS# 100-00-5, 88 C)		L	>480' c			
	Ammonia (CAS# 7664-41-7, -34 C)		L	>480' c	480' c	>480' c	
	Ethylene Oxide (CAS# 75-21-8, ≤10 C)		L	>480' c	480' c	>480' c	<24'
	Hydrogen Fluoride (CAS# 7664-39-3, 17 C)		L	190' c	110' c	350' c	
	Phenol (CAS#108-95-2, 45 C, molten)		L	>480' c	480' c	>480' c	<4.8'
	Phenol (CAS#108-95-2, 60 C, molten)		L	36' c	7' c	111' c	
	Roundup Original Herbicide		L	>480' 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			