

CAS #	Chemical Name	Zytron 100		Zytron 100XP		Zytron 200		Zytron 300		Zytron 400		Zytron 500		Frontline 300		Frontline 500	
		Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)
3607-78-1	1,1,1,3,3,3-Hexachloropropane					>480	ND			>480*		>480*					
71-55-6	1,1,1-Trichloroethane 99.5 %							>480	ND	>480	ND	>480	ND			>480	ND
95-50-1	1,2-Dichlorobenzene 99.0%							>480	ND	>480*		>480	ND			>480	ND
107-06-2	1,2-Dichloroethane 99.8%							>480	ND	>480*		>480	ND			>480 *	
78-87-5	1,2 Dichloropropane 98.0%					73	3.2										
107-21-1	1,2-Dihydroxyethane >99%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND			>480 *	
122-60-1	1,2-Epoxy-3-Phenoxy Propane 99%					>480	ND			>480*		>480	ND				
106-99-0	1,3 Butadiene 99%							>480	ND	>480*		>480	ND	>480	ND	>480	ND
542-75-6	1,3 Dichloropropene 98%					<6	126.6							>480	ND	>480	ND
822-06-0	1,6-Diisocyanatohexane 98%					>480	ND			>480	ND	>480	ND				
108-38-3	1,3-Dimethylbenzene 99+%							>480	ND	>480*		>480	ND			>480 *	
71-36-3	1-Butanol 99.9%							>480	ND	>480	ND	>480	ND			>480	ND
88-12-0	1-Vinyl-2-Pyrrolidinone 99.9%							>480	ND	>480*		>480*				>480*	
106-50-3	1,4-Diaminobenzene 15%							>480	ND	>480*		>480*				>480 *	
Mixture	21%Sulfur Trioxide 79% Chlorosulfonic Acid					>480	ND			>480*		>480	ND			>480 *	
534-85-0	2-Aminodiphenylamine {2-ADP} 15%							>480	ND	>480*		>480*				>480	ND
141-43-5	2-Aminoethanol 99+%							>480	ND	>480	ND	>480	ND			>480 *	
7697-37-2	Aqua Fortis 70%			>480	ND	>480	ND	>480	ND	>480	ND	>480	ND			>480 *	
78-93-3	2-Butanone MEK 99+%							>480	ND	>480	ND	>480	ND			>480	ND
79-06-01	2-Propenamide 99+%					>480	ND			>480	ND	>480	ND				
106-89-8	2-Chloropropylene Oxide 99+%							>480	ND	>480*		>480	ND			>480 *	
60-24-2	2-Mercaptoethanol 99%							>480	ND	>480*		>480*				>480*	
542-75-6	3-Chloroallyl Chloride 98%					<6	126.6										
107-05-1	3-Chloropropene 98% -99%					7	18.5			>480	ND	>480*					
92-67-1	4-Aminodiphenyl 25%					>480	ND	>480	ND	>480*		>480	ND			>480 *	
92-67-1	4-Phenylaniline 25%					>480	ND	>480	ND	>480*		>480	ND			>480 *	
98-29-3	4-Tert-Butylcatechol 97%					>480	<0.01			>480	ND	>480*					
100-43-6	4-Vinylpyridine 95%					76	7.3										
64-19-7	Acetic Acid 99.8%					>480	ND	>480	ND	>480	ND	>480	ND			>480*	
108-24-7	Acetic Anhydride >99%					>480	ND	>480	ND	>480	ND	>480	ND			>480*	
67-64-1	Acetone 99.5%					17	2.2	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
75-05-8	Acetonitrile 99.5%					52	0.761	87	1.22	>480	ND	>480	ND	>480	ND	>480	ND
107-02-8	Acrolein 90%							110	1.84							>480	ND
107-02-8	Acrolein (vapor) 10,000 ppm																
79-06-01	Acrylamide 99+%					>480	ND			>480	ND	>480	ND				
107-13-1	Acrylonitrile 99+%					65	1.6	95	0.2			>480	ND	>480	ND	>480	ND
107-13-1	Acrylonitrile (vapor) 10,000 ppm																

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814-68-6	Acryloyl Chloride														>480	ND	>480*		
Mixture	Alkylate 99.5%					117	0.122	>480	ND	>480*		>480	ND				>480	ND	
79-10-7	Acrylic Acid >99%					>480	0.05	30	1.54	>480*		>480*							
107-18-6	Allyl Alcohol 99%					>480	ND	96	3.65	>480*		>480	ND						
107-05-1	Allyl Chloride 99%					7	18.5	>480	ND	>480	ND	>480*					>480*		
7784-24-9	Aluminium Potassium Sulfate 12 Hydrate 50%							>480	ND	>480*		>480	ND				>480	ND	
98-83-9	A-Methyl Styrene 99%							>480	ND	>480*		>480	ND				>480	ND	
7664-41-7	Anhydrous ammonia (gas) 10,000 ppm																		
7664-41-7	Ammonia Gas 100%							39	0.16			>480	ND	>480	ND	>480	ND	>480	ND
7664-41-7	Ammonia Liquid 100%					>480	0.08			>480	ND	>480*							
1336-21-6	Ammonium Hydroxide 28%					>480	0.018	9	381	>480*		>480	ND	>480	ND	>480*			
62-53-3	Aniline 99.5%					>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
Mixture	Arctic Heating Fuel (mixture)					>480	ND			>480*		>480*							
110-86-1	Azabenzene 99.8%					17	33.1	>480	ND	>480*		>480	ND				>480 *		
333-41-5	Basudin 25%					>480	ND			>480*		>480	ND						
7664-93-9	Battery Acid 95%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND				>480 *		
120-80-9	Brenzcatechin 95%					>480	<0.01			>480*		>480*							
71-43-2	Benzene 99+%					36	11	>480	ND	>480*		>480	ND	>480	ND	>480	ND	>480	ND
100-44-7	Benzyl Chloride 99%							>480	ND			>480	ND						
106-99-0	Biethylene 99%							>480	ND	>480*		>480	ND				>480 *		
505-60-2	Bis (2-chloroethyl) Sulfide (Mustard Gas)							>480	ND	>480*		>480	ND				>480 *		
7446-09-5	Bisulfite 99%											>480	ND						
Mixture	Black Liquor	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND				>480 *		
7637-07-2	Boron Trifluoride 99.9%																>480	ND	
13319-75-0	Boron Trifluoride Dihydrate 96%									>480	ND	>480*							
7726-95-6	Bromine 98% - 99%											30	>.05				80	10.29	
74-83-9	Bromomethane 99.5%					59	60.9												
123-86-4	Butyl Acetate 99%											>480	<0.05						
71-36-3	Butyl Alcohol 99.9%							>480	ND	>480	ND	>480	ND				>480 *		
1634-04-4	Butyl Methyl Ether (MTBE) 99.8%							>480	ND	>480	ND	>480	ND				>480		
108-95-2	Carbolic Acid 99.9%					287	0.32	85	60.4	>480	ND	>480	ND						
75-15-0	Carbon Bisulfide 99%					2	4.43	>480	ND	>480	ND	>480	ND				>480	ND	
75-15-0	Carbon Disulfide 99%					2	4.43	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
75-44-5	Carbon Oxychloride 99%							>480	ND	>480*		>480*					>480 *		
120-80-9	Catechol 95%					>480	<0.01			>480*		>480*							
1310-73-2	Caustic Soda 50%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND				>480 *		
10049-04-4	Chlorine Dioxide 3,000 ppm											>480	ND						

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7782-50-5	Chlorine (gas) 10,000 ppm																
7782-50-5	Chlorine Gas 99%							>480	ND	>480*		>480	ND	>480	ND	>480	ND
7782-50-5	Chlorine Liquid 99%									>480	ND	>480*					
79-11-8	Chloroacetic Acid 99%					>480	ND	>480	ND	>480*		>480	ND			>480 *	
79-04-9	Chloroacetyl Chloride 99% @ 27°C											>480	<0.06				
108-90-7	Chlorobenzene 99.5%					38	12.9	305	0.21								
67-66-3	Chloroform 99%							193	1.26								
74-87-3	Chloromethane 99%							>480	ND	>480*		>480	<0.01			>480 *	
7790-94-5	Chlorosulfonic Acid 99%					>480	ND	>480	ND	>480	ND	>480	ND			>480	ND
541-25-3	Chlorovinylarsine Dichloride (Lewisite nerve gas)							>240				>480	ND			>240*	
7768-94-5	Chromic Acid 50%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND			>480	ND
123-73-9	Crotonaldehyde 99%											>480	ND				
Mixture	Crude Oil (mixture)					>480	ND			>480*		>480	ND				
Mixture	Crude Oil Alaska North Slope (mixture)					>480	ND			>480*		>480*					
98-82-8	Cumene 99%							>480	ND	>480*		>480	ND			>480	ND
80-15-9	Cumene Hydroperoxide 80%							>480	ND	>480*		>480	ND			>480	ND
107-13-1	Cyanoethylene 99%					65	1.6	95	0.2			>480	ND				
75-05-8	Cyanomethane 99%					52	0.761	>480	ND	>480	ND	>480	ND			>480 *	
110-82-7	Cyclohexane 99+%											>480	ND				
108-94-1	Cyclohexanone 99.8%											>480	<0.05	>480	ND	>480	ND
3173-53-3	Cyclohexyl Isocyanate 98%					>480	ND			>480*		>480	ND				
Mixture	Denatured Ethanol Mixture 90% Ethanol 10% Methanol													>480	ND		
333-41-5	Diazanon 25%					>480	ND			>480*		>480	ND				
142-96-1	Dibutyl Ether >99%											>480	<0.05				
84-74-2	Dibutyl phthalate 99%							>480	<.05	>480*		>480*				>480*	
75-78-5	Dichlorodimethylsilane 99%					>480	ND			>480*		>480	ND				
75-09-2	Dichloromethane 99%					2	85.1	70	7.75	88	85.1	>480	ND	10	68.13	253	13.3
Mixture	Diesel Fuel - ultra low sulfur (mixture)					>480	ND			>480*		>480	ND	>480	ND	>480	ND
60-29-7	Diethyl Ether 99%													>480	ND	>480 *	
109-89-7	Diethylamine 99.5%					21	235	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
109-89-7	Diethylamine (vapor) 10,000 ppm																
109-99-9	Diethylene Oxide 99.9%					3	463	>480	ND	>480	ND	>480	ND			>480 *	
110-91-8	Diethylene Oximide 99%					145	1.27										
100-37-8	Diethylethanolamine 98%							>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
57-14-7	Dimazine 99%											>480	ND				
127-19-5	Dimethylacetamide 99.8%							>480	ND	>480*		>480	ND			>480	ND
124-40-3	Dimethylamine 40%							>480	ND	>480*		>480	ND	>480	ND	>480	ND

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		Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)
75-78-5	Dimethyldichlorosilane 99%					>480	ND			>480*		>480	ND				
75-21-8	Dimethylene Oxide 99%							81	0.046	305	1.08	>480	ND				
68-12-2	Dimethylformamide 99.8%					77	1.81	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
57-14-7	Dimethylhydrazine N,N- 99%											>480	ND				
67-64-1	Dimethyl Ketone 99.9%					17	2.2	>480	ND	>480	ND	>480	ND			>480 *	
77-78-1	Dimethyl Sulfate 99+%					>480	ND	>480	ND	>480*		>480	ND			>480	ND
77-78-1	Dimethyl Sulfate (liquid) 20 g/m2																
75-18-3	Dimethyl Sulfide 99+%							>480	ND	>480*		>480*		>480	ND	>480*	
10544-72-6	Dinitrogen Tetroxide 2000ppm							>480	ND	>480*		>480*		>480		>480 *	
142-82-5	Dipropyl Methane 99%											>480	ND				
505-60-2	Distilled Mustard (liquid) 20 g/m2																
127-19-5	DMAC 99.8%							>480	ND	>480*		>480	ND			>480 *	
39475-55-3	Dursban 7%					>480	ND			>480*		>480	ND				
106-89-8	Epichlorohydrin 99+%					>480	0.031	>480	ND	>480*		>480	ND			>480	ND
121-44-8	Ethanamine 99.5%							>480	ND	>480*		>480	ND			>480 *	
64-19-7	Ethanoic Acid 99.7%					>480	ND	89	1.93	>480	ND	>480	ND				
108-24-7	Ethanoic Anhydride 98.7%					>480	ND			>480*		>480	ND				
64-17-5	Ethanol 95%					>480	ND			>480*		>480	ND				
141-43-5	Ethanolamine 99+%							>480	ND	>480	ND	>480	ND			>480	ND
100-42-5	Ethyl Benzene 99%							>480	ND	>480*		>480	ND			>480	ND
141-78-6	Ethyl Acetate 99.8%					14	6.11	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
141-78-6	Ethyl Acetate (vapor) 10,000 ppm																
140-88-5	Ethyl Acrylate 99%											>480	<0.05				
64-17-5	Ethyl Alcohol 95%					>480	ND			>480*		>480	ND				
100-41-4	Ethyl Benzene 99.8%							>480	ND	>480*		>480*				>480 *	
541-41-3	Ethyl Chloroformate 97%							>480	ND	>480*		>480	ND			>480	ND
141-78-6	Ethyl Ethanoate 99.8%					14	6.11	>480	ND	>480	ND	>480	ND			>480 *	
50782-69-9	Ethyl-S-Dimethylaminoethyl Methylphosphonothiolate (VX nerve agent)							>480	ND	>480*		>480	ND			>480 *	
107-06-2	Ethylene Dichloride 99.8%							>480	ND	>480*		>480	ND			>480	ND
107-21-1	Ethylene Glycol 99.8%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
75-21-8	Ethylene Oxide 99.8%							81	0.46	305	1.08	>480	ND	>480	ND	>480	ND
7705-8-0	Ferric Chloride 50%					>480	ND	>480	ND	>480*		>480	ND			>480	ND
74-90-8	Formonitrile 99%							>480	ND	>480	ND	>480*				>480 *	
50-00-0	Formaldehyde 10%	>480	ND					>480	ND	>480*		>480	ND			>480	ND
Mixture	Fuel Oil LS (mixture)					>480	ND					>480	ND				
8006-61-9	Gasoline (mixture)							>480	ND	>480	ND	>480	ND	>480	ND	>480	ND

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111-30-8	Gluteraldehyde 5%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND			>480	ND
111-30-8	Glutaric Dialdehyde 5%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND			>480	ND
Mixture	Green Liquor (mixture)	>480	ND			>480	ND			>480*		>480	ND				
142-85-5	Heptane 99%											>480	ND				
110-82-7	Hexahydrobenzene 98%							>480	ND	>480*		>480	ND			>480 *	
124-09-4	Hexamethylenediamine 98+%							180	0.05			180*					
822-06-0	Hexamethylene Diisocyanate 98%					>480	ND	>480	0.05	>480	ND	>480	ND				
110-54-3	Hexane 99%					7	0.35	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
10217-52-4	Hydrazine Hydrate 100%									>480	<0.01	>480*					
10034-85-2	Hydriotic Acid 47%					>480	ND			>480*		>480	ND				
7647-01-0	Hydrochloric Acid 37%							>480	ND	>480*		>480	ND			>480	ND
7664-39-3	Hydrofluoric Acid 48%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
7647-01-0	Hydrogen Chloride 99%							>480	ND	>480*		>480	ND			>480	ND
74-90-8	Hydrogen Cyanide 99%									>480	ND	>480*					
7664-39-3	Hydrogen Fluoride Liquid 99.5%											>480	ND				
7664-39-3	Hydrogen Fluoride Gas 99%							180	421	>480	ND	>480*				>480	ND
10034-85-2	Hydrogen Iodide 47%					>480	ND			>480*		>480	ND				
7722-84-1	Hydrogen Peroxide 50%	>480	ND			>480	ND			>480*		>480	ND	>480	ND	>480	ND
7803-51-2	Hydrogen Phosphide 3000ppm							>480	ND	>480*		>480*				>480 *	
7783 - 06--4	Hydrogen Sulfide 99% vapor							3	0.238							>480	0.05
74-88-4	Iodomethane 99%							<480	ND	>480*		>480	ND				
2855-13-2	Isophorone Diamine { IPDA } 99%							>480	ND	>480*		>480*				>480	ND
75-31-0	Isopropylamine 99+%							>480	ND	>480*		>480	ND			>480	ND
98-83-9	Isopropenyl Benzene 99%							>480	ND	>480*		>480	ND			>480 *	
67-63-0	Isopropyl Alcohol 99.8%							>480	ND	>480*		>480	ND			>480	ND
98-82-8	Isopropyl Benzene 99%							>480	ND	>480*		>480	ND			>480 *	
107-44-8	Isopropyl Methane fluorophosphonate (Sarin)							>480	ND	>480*		>480	ND			>480 *	
Mixture	Jet Fuel A (mixture)					>480	ND			>480*		>480	ND				
8008-20-6	JP 5 Jet Fuel (mixture)							>480	ND	>480*		>480*		>480	ND	>480*	
84742-47-8	JP 8 Jet Fuel (mixture)							>480	ND	>480*		>480*		>480	ND	>480*	
Mixture	Kerosene Distillate (mixture)					16	0.138	338	0.104			>480	ND	>480	ND	>480	ND
71-43-2- Mixture	Light Oil (75% Benzene 25% Diesel Oil) 99%											>480	ND			>480	ND
74-98-6	Liquid Petroleum Gas 99.5%											>480	ND				
541-25-3	Lewisite (L) Nerve Agent							>240				>480	ND			>240*	
121-75-5	Malathion 50%					>480	ND			>480*		>480	ND				
110-16-7	Maleic Acid at Saturation											>480	0.08				
108-31-6	Maleic Anhydride 100ppm											>480	< 0.05				

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CAS #	Chemical Name	Zytron 100		Zytron 100XP		Zytron 200		Zytron 300		Zytron 400		Zytron 500		Frontline 300		Frontline 500	
		Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)
67-56-1	Methanol 99+%					>480	ND	55	0.329	>480	ND	>480	ND	>480	ND	>480 *	
79-20-9	Methyl Acetate 99.8%					>330	0.04	>480	ND	>480*		>480*				>480*	
96-33-3	Methyl Acrylate 99.0%									>480	ND						
67-56-1	Methyl Alcohol 99%					>480	ND	55	0.329	>480	ND	>480	ND	>480	ND	>480	ND
74-89-5	Methylamine (40% in water)							>480	0.008	>480*		>480*				>480*	
108-88-3	Methyl Benzene 99+%					6	355	>480	ND	>480	ND	>480	ND			>480 *	
74-83-9	Methyl Bromide 99.5%					59	60.9										
74-87-3	Methyl Chloride 99.9+%							>480	ND	>480*		>480	<0.01			>480	ND
71-55-6	Methyl Chloroform 99.5%							>480	ND	>480	ND	>480	ND			>480 *	
79-22-1	Methyl Chloroformate 99%							>480	ND	>480*		>480	ND			>480	ND
78-93-3	Methyl Ethyl Ketone 99+%							>480	ND	>480	ND	>480	ND			>480 *	
74-88-4	Methyl Iodide 99%							>480	ND	>480*		>480	ND			>480*	
108-10-1	Methyl Isobutyl Ketone (MIBK) 99.5%							>480	ND	>480*		>480*				>480*	
80-62-6	Methyl Methacrylate >99%							>480	ND	>480*		>480*				>480*	
872-50-4	Methyl Pyrrolidone 99+%							>480	ND	>480*		>480	ND			>480	ND
77-78-1	Methyl Sulfate 99+%							>480	ND	>480*		>480	ND			>480 *	
1634-04-4	Methyl tert Butyl Ether 99.8%							>480	ND	>480	ND	>480	ND			>480	
75-09-2	Methylene Dichloride 99.9%					2	85.1	44	85.2	88	85.1	>480	ND				
50-00-0	Methylene Oxide 1000ppm	>480	ND					>480	ND	>480*		>480	ND			>480 *	
79-11-8	Monochloroacetic Acid 50%							>480	ND	>480*		>480	ND			>480	ND
75-01-04	Monochloroethylene 99%					>480	ND	>480	ND	>480*		>480	ND			>480 *	
7790-94-5	Monochlorosulfuric Acid 99%					>480	ND	>480	ND	>480	ND	>480	ND			>480 *	
108-90-7	Monochlorobenzene >99%							305	0.21								
60-34-4	Monomethyl Hydrazine											>480	ND				
110-91-8	Morpholine 99+%					145	1.27					145*					
8006-61-9	Motor Fuel (mixture)							>480	ND	>480	ND	>480	ND			>480 *	
7647-01-0	Muriatic Acid 37%							>480	ND	>480*		>480	ND			>480 *	
505-60-2	Mustard (HD) (nerve agent)							>480	ND	>480*		>480	ND			>480 *	
108-38-3	M- Xylene 99+%							>480	ND	>480*		>480	ND			>480	ND
Mixture	Naphtha (mixture)							>480	ND	>480*		>480	ND			>480	ND
50782-69-9	Nerve Agent (VX)							>480	ND	>480*		>480	ND			>480 *	
123-86-4	N-Butyl-Acetate 99%							>480	ND	>480*		>480*				>480*	
109-89-7	N-Ethylethanamine 99.5%					21	235	>480	ND	>480	ND	>480	ND			>480 *	
110-54-3	N-Hexane 95%					7	0.35	>480	ND	>480	ND	>480	ND	>480	ND	>480 *	
872-50-4	N-methyl-2pyrrolidone 95-99%					>480	<0.01	>480	ND	>480*		>480	ND			>480 *	
68-12-2	N,N-Dimethylformamide 99.8%					77	1.81	240	0.19	>480	ND	>480	ND			>480 *	
109-66-0	N-Pentane 99+%							>480	ND	>480*		>480	ND			>480 *	

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CAS #	Chemical Name	Zytron 100		Zytron 100XP		Zytron 200		Zytron 300		Zytron 400		Zytron 500		Frontline 300		Frontline 500	
		Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)
7697-37-2	Nitric Acid 70%			>480	ND	>480	ND	>480	ND	>480	ND	>480	ND			>480	ND
7697-37-2	Nitric Acid 99%															>480	ND
98-95-3	Nitrobenzene 99+%					97	19.8	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
98-95-3	Nitrobenzol 99+%					97	19.8	>480	ND	>480	ND	>480	ND			>480 *	
10102-44-0	Nitrogen Dioxide 99%											>480	ND				
10102-44-0	Nitrogen Peroxide 99%											>480	ND				
10544-72-6	Nitrogen Tetroxide 2000ppm											240					
10544-72-6	Nitrogen Tetroxide/Nitric Oxide Mix 2000ppm											240					
95-48-7	O-Cresol 99+%							>480	ND	>480*		>480	ND			>480	ND
111-65-9	Octane 99%													>480	ND	>480	ND
121-75-5	O-dimethyl-phosphorodithioate 50%					>480	ND			>480*		>480	ND				
95-47-6	O-Xylene 97%							>480	ND	>480*		>480*		>480	ND	>480	ND
8014-95-7	Oleum >65%							>480	ND	220	21.4	>480	ND			>480	ND
7664-38-2	Orthophosphoric Acid 85%			>480	ND	>480	ND	>480	ND	>480	ND	>480	ND			>480 *	
106-50-3	p-Phenylenediamine { PPDA } 15%							>480	ND	>480*		>480*				>480	ND
106-42-3	P-Xylene 99%							>480	ND	>480*		>480*				>480	ND
109-66-0	Pentane 99+%							>480	ND	>480*		>480	ND			>480	ND
127-18-4	Perchloroethylene 99.9%					21	8.41	>480	ND	>480	ND	>480	ND	>480	ND	>480 *	
108-95-2	Phenol @43 C 99.9%					287	0.32	85	60.4	>480	ND	>480	ND				
108-95-2	Phenol @65 C >99%									>480	0.03	>480*					
108-90-7	Phenyl Chloride 99.5%					38	12.9										
62-53-3	Phenylamine 99.5%					>480	ND	>480	ND	>480	ND	>480	ND			>480 *	
122-60-1	Phenylglycidyl Ether 99%					>480	ND					>480	ND				
71-43-2	Phenyl Hydride 99%					36	11	>480	ND	>480*		>480	ND			>480 *	
98-13-5	Phenyltrichlorosilane Neat 97%					>480	ND			>480*		>480	ND				
7664-38-2	Phosphoric Acid 85%			>480	ND	>480	ND	>480	ND	>480	ND	>480	ND			>480	ND
7719-12-2	Phosphorus Chloride 98%											>480	ND				
10025-87-3	Phosphorous Oxychloride 99%							>480	ND	>480*		>480	ND			>480	ND
7719-12-2	Phosphorus Trichloride 98%							280	2.14			>480	ND				
108-99-6	Picoline 99%							>480	ND	>480*		>480*				>480*	
151-50-8	Potassium Cyanide 10%	>480	ND									>480	ND				
1310-58-3	Potassium Hydroxide 50%					>480	ND	>480	ND	>480*		>480	ND	>480	ND	>480	ND
Mixture	Promoat							189	3.35								
74-98-6	Propane 99.5%											>480	ND				
108-32-7	Propylene Carbonate							>480	0.00								
75-56-9	Propylene Oxide 99%									>480	ND	>480*		286	0.233		
78-87-5	Propylene Dichloride 98%					73	3.2										

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CAS #	Chemical Name	Zytron 100		Zytron 100XP		Zytron 200		Zytron 300		Zytron 400		Zytron 500		Frontline 300		Frontline 500	
		Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)
110-86-1	Pyridine 99+%					17	33.1	>480	ND	>480*		>480	ND			>480	ND
Mixture	Reformate Naphtha mixture 97-99%							>480	ND	>480*		>480	ND			>480	ND
107-44-8	Sarin (GB) nerve agent							>480	ND	>480*		>480	ND			>480 *	
98-13-5	Silicon Phenyl Trichloride 97%					>480	ND			>480*		>480	ND				
10026-04-7	Silicon Tetrachloride 99.8%					80	1.3							>480	<0.01	>480 *	
7775--09--9	Sodium Chlorate 50%							>480	ND	>480*		>480	ND			>480	ND
7681-52-9	Sodium Chloride Oxide 13%	>480	ND			>480	ND			>480*		>480	ND				
10034-82-9	Sodium Chromate Tetrahydrate 50%							>480	ND	>480*		>480	ND			>480	ND
143-33-9	Sodium Cyanide saturated in H <sub>2</sub> O					>480	ND			>480*		>480*					
1310-73-2	Sodium Hydroxide 50%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
7681-52-9	Sodium Hypochlorite 13%	>480	ND			>480	ND			>480*		>480	ND	>480	ND	>480*	
124-41-4	Sodium Methylate in Methanol 25%									>480	ND	>480*		>480	ND	>480	ND
143-33-9	Sodium salt of Hydrocyanic Acid saturated in H <sub>2</sub> O					>480	ND			>480*		>480*					
96-64-0	Soman (liquid) 20 g/m2																
Mixture	Stoddard Solvent 99+%									>480	ND	>480*					
100-42-5	Styrene Monomer 99%							>480	ND	>480*		>480	ND	>480	ND	>480	ND
7446--11--9	Sulfan 99%							>480	ND	>480*		>480	ND			>480 *	
10545-99-0	Sulfur Dichloride 80%									40	4.94						
7446-09-5	Sulfur Dioxide 99%							130	0.207			>480	ND				
7446--11--9	Sulfur Trioxide 99%							>480	ND	>480*		>480	ND			>480 *	
7664-93-9	Sulfuric Acid 95%	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
7664-93-9	Sulfuric Acid 93.1% (liquid) 20 g/m2																
1330-78-5	Tricresyl Phosphate 90%									>480	ND	>480*					
75-91-2	Tertiary Butyl Hydroperoxide 5-6M									>480	ND	>480*		>480	ND	>480	ND
2052-49-5	Tetrabory Lam 99%							>480	ND	>480*		>480	ND			>480	ND
127-18-4	Tetrachloroethylene 99+%					21	8.41	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
127-18-4	Tetrachloroethylene (liquid) 20 g/m2																
7550-45-0	Tetrachlorotitanium 99.9%							>480	ND	>480*		>480*				>480 *	
109-99-9	Tetrahydrofuran 99.9%					3	463	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
75-59-2	Tetramethylammonium Hydroxide 25%							>480	ND	>480	ND	>480	<.026				
7719--09--7	Thionyl Chloride 99%											>480	0.035				
7550-45-0	Titanium Tetrachloride 99.9%							>480	ND	>480*		>480*		>480	ND	>480 *	
108-88-3	Toluene 99.5%					6	355	>480	ND	>480	ND	>480	ND	>480	ND	>480	ND
108-88-3	Toluene (liquid) 20 g/m2																
584-84-9	Toluene diisocyanate 98%							>480	0.05			>480*					
79-01-6	Trichloroethylene 99%							>480	ND	>480*		>480*				>480	ND
10025-78-2	Trichlorosilane Neat					30	58.9										

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		Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)	Breakthrough Time (min)	Perm Rate (µg/cm2/min)
75-94-5	Trichlorovinylsilane Neat					75	3.6										
121-44-8	Triethylamine 99.5%							>480	ND	>480*		>480	ND			>480	ND
76-05-1	Trifluoroacetic Acid (TFA) 99%					>480	ND	>480	ND	>480*		>480	ND				
13319-75-0	Trifluoroborane Dihydrate 96%									>480	ND	>480*					
76-05-1	Trifluoroethanoic Acid 99%					>480	ND			>480*		>480	ND				
1330-78-5	Tritolyl Phosphate 90%									>480	ND	>480*					
108-05-4	Vinyl Acetate 99.8%							>480	ND	>480*		>480*					>480*
75-01-04	Vinyl Chloride 99%					>480	ND	>480	ND	>480*		>480	ND				>480 *
Mixture	White Liquor mixture	>480	ND			>480	ND			>480*		>480	ND				

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