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Chemical Resistance Chart

Degradation & Permeation Test Data

Legend

- _____ Catastrophic Breakthrough
- Avg. _____ Average
- BTT _____ Breakthrough Time
- Prmt _____ Permeation
- Degr. _____ Degradation
- EN 374 Class _ European Classification
- Min _____ Minutes
- _____ Not Tested
- * _____ These rates may be artificially lower due to detector saturation

En 374 Class Permeation Time

0	<10 min.
1	>10 min.
2	>30 min.
3	>60 min.
4	>120 min.
5	>240 min.
6	>480 min.

Key to degradation rating

% Weight Change (Gain)	Degradation Rating	
0 to 10	Excellent	E
11 to 20	Good	G
21 to 30	Fair	F
31 to 50, or small loss	Poor	P
Above 50	Not Recommended	NR

*NR - Avoid use of the gloves with this chemical

CHEMICAL	NEOPRENE GLOVES			
	EN 374 Class Index	Avg BTT/Min	Avg. Max Detectable Prmt rate / $\mu\text{g} / \text{cm}^2 \text{ Min}$	Avg. Degr. Rate
1. Acetaldehyde, 99.5%	0	8	765	P
2. Acetic Acid, 99+%	4	152	7.4	E
3. Acetone, 99.5%	1	11	72.9	F
4. Acetonitrile, 99%	1	15	8	E
5. Acrylic Acid, 99%	3	66	24.2	P
6. Ammonium Fluoride, 40%	6	>480	<0.016	E
7. Ammonium Hydroxide, 85%	5	>440	0.13	E
8. Amyl Alcohol, 99+%	4	138	3.8	E
9. Aniline, 99+%	3	69	26.4	P
10. Aqua Regia	6	>480	<0.016	E
11. Bromopropionic Acid, Sat.	6	>480	<0.016	E
12. Butyl Alcohol, 99%	4	135	1.6	E
13. Butyl Cellosolve, 99+%	3	63	303*	G
14. Butyrolactone, 99+%	4	170	0.99	E
15. Cellosolve Acetate, 99+%	2	37	103	NR
16. Cellosolve Solvent(2-ethoxy ethanol), 99+%	2	58	31	E
17. Citric Acid, 10%	6	>480	<0.016	E
18. Cyclohexanol, 98%	5	392	0.3	E
19. Diacetone Alcohol, 99%	3	96	260*	E
20. Dibutyl Phthalate, 99%	6	>480	<0.002	G
21. Dimethylformamide, 99+%	2	38	59.2	F
22. Dimethyl Sulfoxide, 99+%	5	243	1.3	E
23. Dioctyl Phthalate, 99%	6	>480	<0.03	G
24. Ethyl Acetate, 99+%	0	10	23	NR
25. Ethyl Alcohol, 90+%	3	73	4.9	E
26. Ethyl Ether, 99+%	0	4	•	NR
27. Ethyl Glycol Ether, 99%	3	68	33.4	E
28. Ethylene Glycol, 99+%	6	>480	>0.001	E
29. Formaldehyde, 99%	6	>480	<0.03	E
30. Formic Acid, 95+%	6	>480	<0.016	E
31. Freon TF, 99+%	4	160	31.6	NR
32. Furfural, 99%	2	35	543	F
33. Hexamethyldisilazine, 97%	4	153	16.2*	P
34. Hexane, 99+%	1	16	27.7	NR
35. Hydrazine, 65%	4	205	8.0*	E



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IMPORTANT NOTE

The data appearing on this chart are the results of laboratory test conducted as per ASTM / EN standards and are intended to serve only as a guide. The permeation rate and breakthrough time are arrived at the average data obtained from the testing of newly produced glove samples selected on a random basis. The permeation break through time is correlated with the class index of the EN 374.

It is important to note that this data is not an absolute basis for glove selection as testing was done strictly under controlled laboratory conditions. In effect, actual working conditions may differ and may impact the glove's performance. Other factors such as glove reuse, thermal conditions, chemical mixtures and the product's resistance to abrasion, cuts and punctures may also affect the performance of the glove.

By the same token, permeation and degradation do not always correlate. A glove may have a good result in permeation breakthrough time but it may degrade (swell, gets weaker or softer) easily, thus rated P / NR.

There are cases whereby a glove may be substantially damaged by the chemical. In this case, permeation breakthrough time is not applicable as the glove will not offer any protection to the end-user. Therefore, when evaluating the suitability of this product for a very specific application, it is strongly recommended that its evaluation be based on actual working conditions.

This chart does not act as a warranty for the performance of the glove in any specific work application.

CHEMICAL	NEOPRENE GLOVES			
	EN 374 Classs Index	Avg BTT/Min	Avg. Max Detectable Prmt rate / $\mu\text{g} / \text{cm}^2 \cdot \text{Min}$	Avg. Degrnd. Rate
36. Hydrochloric Acid, 10%	6	>480	<0.082	E
37. Hydrochloric Acid, 37%	5	>460	>5	E
38. Hydrofluoric Acid, 48%	6	>480	<0.082	E
39. Hydrogen Peroxide, 30%	6	>480	<0.03	E
40. Hydroquinone, Sat.	6	>480	<0.03	E
41. Isobutyl Alcohol, 99+%	4	183	0.6	E
42. Iso-Octane, 99%	3	92	23.8	NR
43. Isopropyl Alcohol, 99+%	4	142	1.5	E
44. Kerosene, 100%	3	100	23.5	NR
45. Lactic Acid, 85%	6	>480	<0.016	E
46. Lauric Acid, 36%	6	>480	<0.05	G
47. Maleic Acid, Sat.	6	>480	<0.03	E
48. Methyl Alcohol, 99.9+%	2	40	4.5	E
49. Methylamine, 40%	3	79	51.4	E
50. Methyl Cellosolve, 99%	3	75	5.6	E
51. Mineral Spirits, Rule 66, 100%	3	67	32.8	NR
52. Monoethanolamine, 99+%	6	>480	<0.006	E
53. Naphtha VM & P, 100%	2	35	102*	NR
54. Nitric Acid, 10%	6	>480	<0.082	E
55. Nitric Acid, 70%	5	370	>16	G
56. Nitromethane, 95.5%	1	22	5.8	E
57. Nitropropane, 95.5%	1	26	30.7	P
58. Octyl Alcohol, 99+%	5	275	1.7	E
59. Oleic Acid, 99+%	6	>480	<0.005	E
60. Oxalic Acid, 12.5%	6	>480	<0.034	E
61. Palmitic Acid, Sat.	6	>480	<0.05	E
62. Pentachlorophenol, 36% in ethanol	6	>480	<0.03	E
63. Pentane, 98%	1	13	209	NR
64. Perchloric Acid, 60%	6	>480	<0.016	E
65. Phenol, 90%	3	108	19.2	G
66. Phosphoric Acid, 85%	6	>480	<0.082	E
67. Potassium Hydroxide, 50%	6	>480	<0.082	E
68. Propyl Alcohol, 96+%	3	75	4.6	E
69. Rubber Solvent, 100%	1	15	117	NR
70. Sodium Hydroxide, 50%	6	>480	<0.016	G
71. Stoddard Solvent, 99%	3	62	57.6	NR
72. Sulfuric Acid, 47%	6	>480	<0.016	E
73. Sulfuric Acid, 95%	5	260	>10	E
74. Tannic Acid, 65%	6	>480	<0.016	E
75. Tricresyl Phosphate, 90%	-	-	-	G