

SHOWA 6784R Neoprene Gloves

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EN 374 RATINGS

Rating	Description
0	10 minutes breakthrough time; Dangerous selection.
1	> 10 minutes breakthrough time; Very poor; Splashes only; Change quickly.
2	> 30 minutes breakthrough time; Poor choice; Change quickly when exposed.
3	> 60 minutes breakthrough time; Sometimes satisfactory; Change soon after exposure.
4	> 120 minutes breakthrough time; Good selection; Change after two hours.
5	> 240 minutes breakthrough time; Next best selection; Change after four hours.
6	> 480 minutes breakthrough time; Safest best selection with high rating attainable.

Cut Resistance Ratings

Rating	Description
0	< 200 grams of weight needed to cut through material with 25 mm of blade travel
1	> 200 grams of weight needed to cut through material with 25 mm of blade travel
2	> 500 grams of weight needed to cut through material with 25 mm of blade travel
3	> 1000 grams of weight needed to cut through material with 25 mm of blade travel
4	> 1500 grams of weight needed to cut through material with 25 mm of blade travel
5	> 3000 grams of weight needed to cut through material with 25 mm of blade travel

Degradation is the physical change in a glove after chemical exposure. Typical effects may be swelling, wrinkling, deterioration, or delamination. There are no accepted standards for measuring degradation. Best degradation testing is based on a protocol considered by the ASTM F23 Protective Clothing Committee. One side of the glove material is exposed to the test chemical for four hours. The percent weight change is measured at four time intervals: 5, 30, 60 and 240 minutes. The gravimetric ratings are ranked as shown below.

Key	Rating	Weight Change
E	Excellent	0-10%
G	Good	11-20%
F	Fair	21-30%
P	Poor	31-50%
NR	Not Recommended	Above 50%

Where degradation rating is poor (P) or not recommended (NR) after 60 minutes, the material is not tested for permeation resistance. Permeation results are listed as not recommended (NR) because of severe degradation. WARNING: Weight change is only our measure of degradation and does not account for certain physical changes such as hardening of PVC.

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in $\mu\text{g}/\text{cm}^2/\text{min}$	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in $\mu\text{g}/\text{cm}^2/\text{min}$	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Acetaldehyde	75-07-0	100%	1	82	0	25	36	1	>E	E	E	E
Acetic Acid	64-19-7	84%	>480	ND	6	>240	ND	5	>E	E	E	E
Acetone	67-64-1	100%	35	52	2	43	10	2	>E	E	E	E
Acetonitrile	75-05-8	100%	65	1	3	72	0.5	3	>E	E	E	E
Acetophenone	98-86-2	100%	>480	ND	6	>240	ND	5	>E	G	G	P
Acetoxycetyl Chloride	13831-31-7	100%	>480	ND	6	>240	ND	5	>E	E	E	G
Acrylamide	79-06-1	50%	>480	ND	6	>240	ND	5	>E	E	E	E
Acrylonitrile	107-13-1	100%	27	42	1	59	15	2	>E	E	E	E
Alkasol 27	90111-76-3	10%	>480	ND	6	>240	ND	5	>E	E	E	E
Allyl Alcohol	107-18-6	99%	182	5	4	>240	ND	5	>E	E	E	E
Allyl Alcohol	107-18-6	100%	182	5	4	>240	ND	5	>E	E	E	E
Alodine 1000 Solution	97631-99-6	1%	>480	ND	6	>240	ND	5	>E	E	E	E
Alodine 1200s Solution	93755-29-8	2%	>480	ND	6	>240	ND	5	>E	E	E	E
Ammonia (gas)	7664-41-7	100%	29	2	1	NT	NT	NT	>E	E	E	E
Ammonium Hydroxide	1336-21-6	29%	>480	ND	6	>240	ND	5	>E	E	E	E
Amyl Acetate	628-63-7	100%	110	43	3	>240	ND	5	>E	G	G	P
Amyl Alcohol	71-41-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Aniline	62-53-3	100%	32	8	2	>240	ND	5	>E	E	G	G
Antimony Tributyrat	53856-17-0	95%	>480	ND	6	>240	ND	5	>NT	NT	NT	NT
Aqua Regia	8007-56-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Battery Acid	7664-93-9	47%	>480	ND	6	>240	ND	5	>E	E	E	E
Benzaldehyde	100-52-7	100%	93	24	3	93	22	3	>E	E	E	E

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm2/min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm2/min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Benzene	71-43-2	100%	15	285	1	44	27	2	>G	P	P	P
Benzene, 1-chloro-4-trifluoro	98-56-6	100%	130	103	4	>480	ND	6	>G	F	P	P
Benzene, Trifluoromethyl	98-08-8	100%	50	62	2	57	48	2	>G	G	F	P
Benzene, 1-chloro-2-methyl	25168-05-2	100%	68	75	3	49	34	2	>F	P	NR	NR
Benzene, dichloro-4-trifluoro	328-84-7	100%	266	221	5	>240	86	5	>G	F	P	NR
Benzyl Alcohol	100-51-6	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Blasocut 2000 Universal	98608-26-6	70%	>480	ND	6	>240	ND	5	>E	E	E	E
Blasocut 2000 Universal	98608-26-6	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Blasocut 4000	94742-52-7	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Bleach: Sodium Hypochlorite (4-6%)	7681-52-9	6%	>480	ND	6	>240	ND	5	>E	E	E	E
Boric Acid-sulfuric Acid	90043-35-4	1%	>480	ND	6	>240	ND	5	>E	E	E	E
Boric Acid-sulfuric Acid	90043-35-4	6%	>480	ND	6	>240	ND	5	>E	E	E	E
Boric Acid-sulfuric Acid	90043-35-4	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Bromoethyl Acetate, 2-	927-68-4	100%	>480	ND	6	>240	ND	5	>E	E	G	G
Bromoform	75-25-2	100%	NR	NR	0	74	43	3	>P	NR	NR	NR

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm ² /min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm ² /min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Bulin Mp 1793 Hydrocarbon Mixture	64742-48-9	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Butadiene 1,3- (gas)	106-99-0	100%	33	3	2	NT	NT	NT	>E	E	E	E
Butanol	71-36-3	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Butoxypropanol	5131-66-8	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Butoxytriglycol	143-22-6	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Butyl Acetate	123-86-4	100%	46	70	2	58	27	2	>E	G	F	P
Butyl Acrylate	141-32-2	100%	44	21	2	60	0.9	3	>E	G	G	F
Butyl Carbitol Solvent	112-34-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Butyl Cellosolve Acetate	112-07-2	100%	>480	ND	6	>240	ND	5	>E	E	F	F
Butyl Cellosolve Solvent	111-76-2	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Butyl Dipropasol Solvent	29911-28-2	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Butyl Toluene P-tert-	98-51-1	100%	158	18	4	>240	ND	5	>E	E	E	F
Butylamine	109-73-9	100%	NR	NR	0	NT	NT	NT	>G	P	NR	NR
Caprinus U Multigrade Railroad Oil	66532-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Carbitol Acetate	112-15-2	98%	>480	ND	6	>240	ND	5	>E	E	E	G
Carbitol Acetate	112-15-2	100%	>480	ND	6	>240	ND	5	>E	E	E	G
Carbon Disulfide	75-15-0	100%	NR	NR	0	NT	NT	NT	>G	NR	NR	NR

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Carbon Tetrachloride	56-23-5	100%	73	107	3	>240	29	5	>E	F	P	NR
Cascade Columbia 3 Part A	90112-34-7	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Cellosolve Acetate	110-80-5	100%	228	15	4	>240	ND	5	>E	E	E	G
Chevron Jet Fuel A	94742-80-1	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Chlorine (gas)	7782-50-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Chlorobenzene	108-90-7	100%	NR	NR	0	30	91	2	>G	P	NR	NR
Chloroform	67-66-3	100%	23	298	1	51	75	2	>G	P	NR	NR
Chromic Acid	1333-82-0	50%	>480	ND	6	>240	ND	5	>E	E	E	E
Citra-safe Deodorizer	95989-27-5	100%	138	88	4	NT	NT	NT	>G	P	NR	NR
Citric Acid	77-92-9	30%	>480	ND	6	>240	ND	5	>E	E	E	E
Citrus Terpenes Mixture	68956-56-9	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Cresols	1319-77-3	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Cumene	98-82-8	100%	60	19	3	>240	ND	5	>G	NR	NR	NR
Cyclohexane	110-82-7	100%	228	8	4	>240	ND	5	>E	E	E	E
Cyclohexanol	108-93-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Cyclohexanone	108-94-1	100%	108	53	3	116	1	3	>E	G	F	NR
Daraclean 282	90112-34-9	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Deoxidizer 16 Replenisher	97664-39-5	40%	>480	ND	6	>240	ND	5	>E	E	E	E
Desoclean 45 Mixture	90067-63-1	50%	32	175	2	NT	NT	NT	>E	E	E	G
Desoclean 45 Mixture	90067-63-1	100%	32	175	2	NT	NT	NT	>E	E	E	G

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Di-isobutyl Ketone	108-83-8	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Dibutyl Phthalate N-	84-74-2	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Dichlorobenzene O-	95-50-1	100%	NR	NR	0	21	66	1	>G	P	P	NR
Dichloroethane 1,2-	107-06-2	100%	16	136	1	>240	ND	5	>E	F	P	P
Diesel Fuel	77650-28-3	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Diethanolamine	111-42-2	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Diethylamine	109-89-7	100%	13	136	1	50	115	2	>E	F	F	P
Diethylene Glycol	111-46-6	99%	>480	ND	6	>240	ND	5	>E	E	E	E
Diethylene Glycol Monomethyl Ether	111-77-3	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Diethylene Glycol Monopropyl Ether	6881-94-3	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Dimethyl Formamide	68-12-2	100%	100	57	3	118	8	3	>E	E	E	G
Dimethyl Sulfate	77-78-1	100%	15	47	1	60	29	3	>G	G	G	F
Dimethylacetamide N,n-	127-19-5	100%	84	63	3	>240	ND	5	>E	E	E	E
Dimethylsulfoxide	67-68-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Dinitrol Av30 Spray	94894-36-1	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Dinitrol Av8 Mod	94742-48-1	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Dinitrotoluene (40% In Roh)	121-14-2	40%	283	0.4	5	>240	ND	5	>E	E	G	F
Dioxane 1,4-	123-91-1	100%	63	112	3	90	9	3	>E	G	G	P
Divinyl Benzene	1321-74-0	100%	NR	NR	0	103	27	3	>E	F	P	NR
Donax Tg Transmission Fluid	60486-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Dowtherm, Biphenyl	92-52-4	23%	>480	ND	6	>240	ND	5	>E	G	G	P
Dowtherm, Biphenyl	92-52-4	27%	>480	ND	6	>240	ND	5	>E	G	G	P
Dowtherm, Biphenyl	92-52-4	73%	>480	ND	6	>240	ND	5	>E	G	G	P
Dubl-chek Penetrant Mixture	68131-40-8	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Epichlorohydrin	106-89-8	100%	13	163	1	64	7	3	>E	G	G	F
Ethanol	64-17-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Ethanolamine	141-43-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Ethoxytriglycol	112-50-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Ethyl Acetate	141-78-6	100%	24	195	1	88	15	3	>E	G	G	F
Ethyl Benzene	100-41-4	100%	31	125	2	43	31	2	>G	F	P	NR
Ethyl Butanol	97-95-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Ethyl Ether	60-29-7	100%	12	112	1	19	52	1	>E	G	G	G
Ethylene Glycol	107-21-1	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Ethylene Glycol Monoethyl Ether	112-25-4	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Ethylene Oxide (gas)	75-21-8	100%	21	500	1	NT	NT	NT	>E	E	E	E
Ethylenediamine	107-15-3	99%	>480	ND	6	>240	ND	5	>E	E	E	E
Ethylenediamine	107-15-3	100%	>480	ND	6	>240	nd	5	>E	E	E	E
Fcc-55	90108-10-2	100%	16	106	1	NT	NT	NT	>E	E	G	F
Fluoboric Acid	16872-11-0	49%	>480	ND	6	>240	ND	5	>E	E	E	E
Formaldehyde	50-00-0	37%	>480	ND	6	>240	ND	5	>E	E	E	E
Formic Acid	64-18-6	90%	>480	ND	6	>240	ND	5	>E	E	E	E

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm ² /min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm ² /min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Freon 113	76-13-1	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Furfural	98-01-1	100%	116	8	3	>240	ND	5	>E	E	E	E
Gasoline (unleaded)	8006-61-9	100%	46	50	2	>240	ND	5	>E	E	E	F
Glutaraldehyde	111-30-8	50%	>480	ND	6	>240	ND	5	>E	E	E	E
Heptane	142-82-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Hexane	110-54-3	100%	173	8	4	>240	ND	5	>E	E	E	E
Hexene	592-41-6	100%	47	54	2	45	11	2	>E	E	E	F
Hexyl Carbitol Solvent	112-59-4	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Huntsman Dimethylcyclohexyl Amine	98-94-2	100%	105	69	3	NT	NT	NT	>NT	NT	NT	NT
Huntsman Dimethylpiperazine	106-58-1	100%	60	42	3	NT	NT	NT	>NT	NT	NT	NT
Huntsman Jeffcat Dmdee	6425-39-4	100%	225	69	4	NT	NT	NT	>NT	NT	NT	NT
Huntsman Methylmorpholine	7529-22-8	65%	>480	ND	6	>240	ND	5	>NT	NT	NT	NT
Hydrazine Hydrate	302-01-2	85%	>480	ND	6	>240	ND	5	>E	E	E	E
Hydrazine, Dimethyl	57-14-7	100%	240	24	5	NT	NT	NT	>NT	NT	NT	NT
Hydrochloric Acid	7647-01-0	10%	>480	ND	6	>240	ND	5	>E	E	E	E
Hydrochloric Acid	7647-01-0	37%	>480	ND	6	>240	ND	5	>E	E	E	E
Hydrochloric Acid	7647-01-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Hydrofluoric Acid	7664-39-3	48%	>480	ND	6	>240	ND	5	>E	E	E	E
Hydrofluoric Acid	7664-39-3	100%	210	5.2	4	NT	NT	NT	>E	E	E	E

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm2/min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm2/min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Hydrogen Chloride (gas)	1/2/7647	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Hydrogen Fluoride (gas)	7664-39-2	100%	210	5.2	4	NT	NT	NT	>E	E	E	E
Hydrogen Peroxide	7722-84-1	30%	>480	ND	6	>240	ND	5	>E	E	E	E
Iso Amyl Acetate	123-92-2	100%	71	64	3	106	21	3	>E	G	G	P
Iso Amyl Alcohol	123-51-3	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Iso-butanol	78-83-1	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Iso-octane	540-84-1	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Isopropyl Acetate	108-21-4	49%	26	70	1	43	30	2	>E	G	G	F
Isopropyl Acetate	108-21-4	98%	26	70	1	43	30	2	>E	G	G	F
Isopropyl Acetate	108-21-4	100%	26		1	NT	30	NT	>E	G	G	F
Isopropyl Alcohol	67-63-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Jet Fuel Jp-4	94742-47-9	100%	287	57	5	>240	ND	5	>E	E	E	E
Jet Fuel Jp-8	98008-20-6	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Kerosene	8008-20-6	100%	223	7	4	>240	ND	5	>E	E	E	E
Lacquer Thinner 1025 Star Brand	74475-85-6	100%	23	239	1	NT	NT	NT	>E	F	F	P
Lacquer Thinner 305 Acme Brand	80108-88-6	100%	NR	NR	0	NT	NT	NT	>G	F	P	NR
Lacquer Thinner 887 Acme Brand	70108-88-6	100%	21	371	1	NT	NT	NT	>E	G	F	NR
Lacquer Thinner Ez Brand	90108-88-6	100%	22	223	1	NT	NT	NT	>E	G	F	P
Lacquer Thinner Rk120 Sherwin Williams	94475-85-6	100%	44	134	2	NT	NT	NT	>E	G	G	F

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm ² /min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm ² /min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Lacquer Thinner Rk22 Sherwin Williams Brand	84475-85-6	100%	46	151	2	NT	NT	NT	>E	G	G	F
Lactic Acid	50-21-5	85%	>480	ND	6	>240	ND	5	>E	E	E	E
Lauric Acid (35% Etoh)	143-07-7	35%	>480	ND	6	>240	ND	5	>E	E	E	E
Limonene D-	5989-27-5	100%	114	14	3	>240	ND	5	>E	E	G	F
Madrella P 150 Oil	56930-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Mek/sba	90078-92-3	100%	93	13	3	NT	NT	NT	>E	E	E	E
Methanol	67-56-1	100%	64	6	3	>240	ND	5	>E	E	E	E
Methoxytriglycol	112-35-6	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Methyl Acetate	79-20-9	100%	20	116	1	32	19	2	>E	E	G	G
Methyl Chloride (gas)	74-87-3	100%	84	0.12	3	NT	NT	NT	>E	E	E	E
Methyl Ethyl Ketone	78-93-3	100%	30	88	2	90	28	3	>E	G	G	F
Methyl Ethyl Ketoxime	96-29-7	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Methyl Iodide	74-88-4	100%	NR	NR	0	21	92	1	>P	NR	NR	NR
Methyl Isobutyl Ketone	108-10-1	100%	41	85	2	104	32	3	>E	E	G	F
Methyl Isobutyl Ketoxime	105-44-2	100%	>480	ND	6	>240	ND	5	>NT	NT	NT	NT
Methyl Methacrylate	80-62-6	100%	27	144	1	40	77	2	>E	G	F	P
Methyl Propasol Solvent	107-98-2	100%	>480	ND	6	>240	ND	5	>E	E	E	P

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Methyl Propyl Ketone	107-87-9	100%	17	73	1	NT	NT	NT	>E	E	G	F
Methyl Pyrrolidone N	872-50-4	100%	140	19	4	>240	ND	5	>E	E	E	G
Methyl-tert-butyl Ether	1634-04-4	100%	48	101	2	50	94	2	>E	E	G	P
Methylamine	74-89-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Methylene Bisphenyl Isocyanate	101-68-8	100%	>480	ND	6	>240	ND	5	>NT	NT	NT	NT
Methylene Chloride	75-09-2	100%	4	588	0	18	40	1	>G	NR	NR	NR
Methylenedianiline 4,4- (190 C)	101-77-9	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Microcut 26	98330-12-9	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Mineral Oil - Light	8012-95-1	100%	NT	NT	6	NT	NT	NT	>E	E	E	E
Mineral Spirits	64475-85-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Morpholine	110-91-8	100%	56	119	2	226	1	4	>E	E	G	F
Muriatic Acid (10% Hcl)	1/1/7647	10%	>480	ND	6	>240	ND	5	>E	E	E	E
Naphtha	8032-32-4	100%	99	10	3	>240	ND	5	>E	E	E	E
Nitric Acid	7697-37-1	23%	>480	ND	6	>240	ND	5	>E	E	E	E
Nitric Acid	7697-37-2	23%	>480	ND	6	>240	ND	5	>E	E	E	E
Nitric Acid	7697-37-2	70%	>480	ND	6	>240	ND	5	>E	E	E	E
Nitric/hydrofluoric Pickling Solution	97697-37-4	50%	>480	ND	6	>240	ND	5	>E	E	E	E
Nitrobenzene	98-95-3	100%	136	22	4	160	7	4	>E	F	F	NR
Nitromethane	75-52-5	100%	128	5	4	144	1.3	4	>E	E	E	E

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in $\mu\text{g}/\text{cm}^2/\text{min}$	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in $\mu\text{g}/\text{cm}^2/\text{min}$	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Nitropropane	79-46-9	100%	98	45	3	136	24	4	>E	E	G	G
Nycote 7-11 Mixture	90064-17-7	100%	168	37	4	NT	NT	NT	>E	E	E	E
Octanol N-	111-87-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Oleic Acid	112-80-1	98%	>480	ND	6	>240	ND	5	>E	E	E	E
Olive Oil	8001-25-0	100%	NT	NT	6	NT	NT	NT	>E	E	E	E
Oxybisbenzene, 1,1-(dowtherm)	101-84-8	73%	>480	ND	6	>240	ND	5	>E	G	G	P
Pcbs (acrocior 1254)	11097-69-1	100%	199	406	4	NT	NT	NT	>E	G	F	P
Pentachlorophenol (5% In Kerosene)	87-86-5	5%	>480	ND	6	>240	ND	5	>E	E	E	E
Pentane	109-66-0	100%	84	32	3	191	0.2	4	>E	E	E	E
Perchloroethylene	127-18-4	100%	40	299	2	66	1	3	>G	P	NR	NR
Phenol	108-95-2	100%	72	12	3	>240	ND	5	>E	E	E	E
Phosphoric Acid	7664-38-2	85%	>480	ND	6	>240	ND	5	>E	E	E	E
Potassium Hydroxide	1310-58-3	45%	>480	ND	6	>240	ND	5	>E	E	E	E
Propanediamine, N,n'-dimethyl	109-55-7	100%	105	69	3	NT	NT	NT	>NT	NT	NT	NT
Propanol N-	71-23-8	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Propoxypropanol	1569-01-3	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Propyl Acetate	109-60-4	100%	39	111	2	68	17	3	>E	G	F	P
Propyl Cellosolve N-	2807-30-9	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Propylene Glycol	57-55-6	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Propylene Oxide	75-56-9	100%	11	204	1	28	18	1	>G	G	F	F
Pseudocumene	95-63-6	98%	83	36	3	83	12	3	>E	E	P	NR
Pyridine	7291-22-7	100%	NR	NR	0	39	8	2	>E	F	P	P

Chemical Tested	CAS Number	Concentration	ASTM F 739 Permeation Resistance to Heavy Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	ASTM F1383 Permeation Resistance to Limited Exposure Breakthrough Time in Minutes	Rate in µg/cm2/ min	EN 374 Rating (0 to 6)	5 Min.	30 Min.	60 Min.	240 Min.
Refrigerant 123a	306-83-2	100%	73	62	3	NT	NT	NT	>E	E	E	E
Refrigerant 141b	1717-00-6	100%	68	2668	3	NT	NT	NT	>E	G	F	F
Roundup (concentrated)	1071-83-6	100%	15	4	1	NT	NT	NT	>E	E	E	E
Safrotin	31218-83-4	50%	>480	ND	6	>240	ND	5	>E	E	E	E
Shell Aeroshell Grease 22	56280-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Shell Alvania Grease 3	57120-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Shell Diala Oil Ax Base Oil	60030-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Shell Fire & Ice 2000 10w Oil	60015-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Shell Hvi 100 Neutral Mg	63050-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Shell Rotella T Multi 15w Oil	71630-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Shell Spirax S 85w- 140 Oil	86404-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Shell Turbo T 68 Hydraulic Fluid	60220-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Shellwax 100	8210-00-0	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Skydrol 500 B-4	126-73-8	100%	>480	ND	6	>240	ND	5	>E	E	E	G
Skydrol Ld-4 Hydraulic Fluid	2528-36-1	100%	>480	ND	6	>240	ND	5	>E	E	G	F
Sodium Hydroxide	1310-73-2	50%	>480	ND	6	>240	ND	5	>E	E	E	E
Stoddard Solvent	8052-41-3	100%	>480	ND	6	>240	ND	5	>E	E	E	E

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Styrene	100-42-5	100%	NR	NR	0	37	199	2	>G	P	NR	NR
Sulfuric Acid	7664-93-9	47%	>480	ND	6	>240	ND	5	>E	E	E	E
Sulfuric Acid	7664-93-9	97%	>480	ND	6	>240	ND	5	>E	E	E	E
Tannic Acid	1401-55-4	50%	>480	ND	6	>240	ND	5	>E	E	E	E
Tetrahydrofuran	109-99-9	100%	13	240	1	17	36	1	>E	F	P	NR
Toluene	108-88-3	100%	25	349	1	33	112	2	>G	F	P	NR
Toluene Diisocyanate	584-84-9	100%	201	3	4	>240	ND	5	>E	E	E	G
Toluene/mek Mixture (65:3 Ratio)	90108-88-5	65%	28	262	1	NT	NT	NT	>F	P	NR	NR
Toluidine,o-	95-53-4	100%	173	9	4	>240	ND	5	>E	E	G	F
Trichlorobenzene 1,2,4-	120-82-1	100%	NR	NR	0	113	16	3	>E	F	P	NR
Trichloroethane 1,1,1-	71-55-6	100%	51	146	2	137	0.3	4	>E	F	P	NR
Trichloroethylene	79-01-6	100%	12	376	1	25	48	1	>G	P	NR	NR
Tricresyl Phosphate	1330-78-5	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Triethanolamine	120-71-6	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Turco 5351 Mixture	90075-09-4	100%	14	370	1	NT	NT	NT	>G	F	P	P
Turco 6709	90107-98-4	100%	>480	ND	6	>240	ND	5	>E	E	E	E
Turpentine	8006-64-2	100%	362	12	5	>240	ND	5	>E	E	E	E
Ucon Quenchant A-ro Mixture	97632-00-0	55%	>480	ND	6	>240	ND	5	>E	E	E	E
Urethane Catalyst Alkanol	83016-70-0	100%	120	26	4	NT	NT	NT	>NT	NT	NT	NT

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Vegetable Oil	8001-30-7	100%	NT	NT	6	NT	NT	NT	>E	E	E	E
Vinyl Acetate	108-05-4	100%	25	186	1	45	4	2	>E	G	P	P
Vinyl Chloride (gas)	75-01-4	100%	7	19	0	NT	NT	NT	>E	E	E	E
Vinylidene Chloride	75-35-4	100%	NR	NR	0	13	65	1	>F	P	NR	NR
Xylene	1330-20-7	100%	37	225	2	>240	ND	5	>G	P	P	NR