



# Silver Shield®/4H® Chemical Protection Guide

A comprehensive listing of Permeation Rates and Breakthrough Times for North Silver Shield®/4H® Hazardous Chemical Gloves, Aprons, Sleeves and Booties against 280 Chemical Contaminants in two temperatures.

**TEST PROCEDURE**

Chemical testing as per ASTM Standard F 739-91.  
Detection limit: 0.1 µg / cm² / min.  
Chemical testing as per EN 374: CE-0120.

**KEY TO BREAKTHROUGH AND PERMEATION RATE**

NT - Not Tested  
NC - Not Calculated  
C - Known or suspected Carcinogen

Chemical	C A S Reg. No.	21° C (70° F)		35° C (95° F)	
		Break-Through Time minutes	Permeation Rate µg / cm² / minute	Break-Through Time minutes	Permeation Rate µg / cm² / minute
ACCUMIXR (mixture) N-Alkyl Dimethyl Benzyl Amm. Chloride	68391-01-5	> 240		NT	
N-Alkyl Dimethyl Ethylbenzyl Amm. Chloride Water	68956-79-6				
Ethyl Alcohol	7732-18-5				
	64-17-5				
Acetaldehyde	75-07-0	> 240		NT	
Acetic Acid 100%	64-19-7	> 480		53	2.4
Acetic Anhydride	108-24-7	> 480		> 240	
Acetone	67-64-1	> 1440		> 240	
Acetone/Petrol 1:1	67-64-1 8032-32-4	9	NC	3	NC
Acetone/Toluene/ Methylated Spirit/ Conc. Ammonia 2 : 1 : 1 : 1	67-64-1 108-88-3 — 7664-41-7	190	NC	40	NC



**North Safety Products**

2000 Plainfield Pike  
Cranston, RI 02921  
USA

Telephone 800-430-4110  
Facsimile 800-572-6346

**North Safety Products Ltd.**

10550 Parkway Blvd.  
Anjou, Quebec  
Canada H1J 2K4

Telephone 888-212-7233  
Facsimile 514-355-7233

**North Safety Products**

Noordmonsterweg 1  
4332 SC Middelburg  
The Netherlands

Telephone +31 (0) 118 656400  
Facsimile +31 (0) 118 627535

Chemical	C A S Reg. No.	21° C (70° F)		35° C (95° F)		
		Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute	Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute	
Acetone/Water 20:80	67-64-1	> 240		> 240		
Acetonitrile	75-05-8	> 1440		> 240		
Acetonitrile 25% in water	75-05-8	> 240		> 240		
Acetophenone	98-86-2	> 480		> 240		
Acrolein	107-02-8	> 480		> 240		
Acrylamide 15% in MEK	79-06-1 78-93-3	> 240		> 240		C
Acrylamide Mixture n-n' methylenebisacrylamide	79-06-1 110-26-9	> 240		> 240		
Acrylate UV Lacquer (ethylacetate/butylacetate)	—	> 240		> 240		
Acrylic Acid	79-10-7	> 240		> 210	NC	
Acrylonitrile	107-13-1	> 480		> 240		C
AeroShell Fluid 4	—	> 240		> 240		
Allyl chloride	107-05-1	> 240		> 240		
Allylamine (propyleneamine)	107-11-9	15	NC	NT		
Ammonia Water 2N	7664-41-7	110	NC	40	NC	
Ammonia Water 25%	7664-41-7	> 240		30	NC	
Ammonium Fluoride 34%	12125-01-8	> 240		> 240		
Ammonium Hydroxide (29, 1 w/w%) in water	1336-21-6	> 240		> 240		
Aniline	62-53-3	> 1440		> 240		
BENLATER (Benomyl)	17804-35-2	> 240		NT		
Benzaldehyde	100-52-7	> 480		> 240		
Benzene	71-43-2	> 1440		> 240		C
3, 3', 4, 4' Benzophenone Tetracarboxylic Dianhydride	2421-28-5	> 240		NT		
Benzyl Alcohol	100-51-6	> 480		NT		
Benzyl Chloride	100-44-7	> 480		> 240		
Benzyl Cyanide	140-29-4	> 240		> 240		
n-Benzyl Dimethylamine	103-83-3	> 240		NT		
Bisphenol A diglycidyl Ether (EPOXY) 50% in MEK	1675-54-3 78-93-3	> 480		> 240		
Bromoacetic Acid	79-08-3	> 240		> 240		
Bromoacetonitrile	590-17-0	> 240		> 240		
2-Bromoacetophenone	70-11-1	> 240		> 240		
1-Bromoethylethyl Carbonate	89766-09-6	> 240		> 240		
1, 4-Butanediol diglycidyl ether 50% in MEK	2425-79-8 78-93-3	> 240		> 240		
n-Butanol	71-36-3	> 480		> 240		
sec-Butanol	78-92-2	> 480		> 240		
tert-Butanol	75-65-0	> 480		> 240		
n-Butyl Acetate	123-86-4	> 480		> 240		
Butyl Acrylate	141-32-2	> 480		> 240		
2-Butoxyethanol (butyl glycol)	111-76-2	> 240		> 240		
tert-Butyl Hydroperoxide	75-91-2	> 240		NT		
Butyraldehyde	123-72-8	> 480		> 240		
Carbon Disulfide	75-15-0	> 1440		> 240		
Carbon Tetrachloride	56-23-5	> 480		> 240		
Chlorine	7782-50-5	> 240		NT		
Chloroacetone	78-95-5	> 240		> 240		
2-Chloroethanol	107-07-3	> 240		> 240		
Chloroform	67-66-3	> 1440		> 240		C
Chloroform/tert. Butanol 80 : 20	67-66-3 75-65-0	> 240		> 8		C

Chemical	C A S Reg. No.	21° C (70° F)		35° C (95° F)		
		Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute	Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute	
Chloroform w/30% Methanol	67-66-3 67-56-1	> 240		> 240		C
3-Chloropropene	107-05-1	> 240		NT		
CLOVA THINNER #19® Toluene 50% MEK 15% Methanol 15% 2-Butoxyethanol 10% Ethyl Acetate 10%	108-88-3 78-93-3 87-56-1 111-76-2 141-78-6	> 240			NT	
Chromic Acid 50%	1333-82-0	> 240		> 240		
Chromic Acid/Sulphuric Acid	1333-82-0 7664-93-9	> 240		> 240		
Coal Tar/Benzene 1:1	— 71-43-2	> 240		> 240		C
Corrosive Fluid Dyrup 49685	—	102	NC	20	NC	
Creosote	8001-58-9	> 240		> 240		C
p-Cresol 50% in MEK	106-44-5 78-93-3					
Cyclohexane	110-82-7	> 480		> 240		
Cyclohexanol	108-93-0	> 480		> 240		
Cyclohexanone	108-94-1	> 480		> 240		
Cyclohexylamine 32% Morpholine 8% Water 60%	108-91-8 110-91-8	> 240	NT			
Cyclopentanone	120-92-3	> 240		> 240		
CYMBUSHR (Cypermethrin)	52315-07-8	> 240		NT		
DEEP WOODS OFF® (Mixture) N, N-Diethyltoluamide Ethanol	134-62-3 64-17-5	> 240		NT		
DEGALAN S 309® (Mixture)	—	> 240		NT		
DEGALAN S 696® (Mixture)	—	> 240		NT		
Diacetone alcohol	123-42-2	> 240		> 240		
4, 4'-Diaminodiphenylmethane (MDA) 50% in MEK	537-65-5 78-93-3	> 480		> 240		C
1, 2-Dibromoethane	106-93-4	> 480		NT		
Dibutyl Ether	142-96-1	> 480		NT		
Di-n-Butyl Phthalate	84-74-2	> 240		> 240		
1, 3-Dichloro-2-Butene	926-57-8	> 240		NT		
1, 2-Dichlorobenzene	95-50-1	> 240		> 240		
1, 2-Dichloroethane	107-06-2	> 240		> 240		C
1, 1-Dichloroethylene	75-35-4	> 420		> 420		
Dichloromethane 90% Isopropyl Alcohol 10%	75-09-2 67-63-0	> 480		> 240		
Diethanolamine 50% in Water	111-42-2	> 240		> 240		
n, n-Diethylacetamide	685-91-6	> 480		> 240		
Diethylamine	109-89-7	> 60	NC	6	NC	
Diethylenetriamine	111-40-0	> 240		NT		
Diethyl Ether	60-29-7	> 480		> 240		
N, N Diethyl nitrosoamine	55-18-5	> 240		NT		

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		Break-Through Time minutes	Permeation Rate $\mu\text{g} / \text{cm}^2 / \text{minute}$	Break-Through Time minutes	Permeation Rate $\mu\text{g} / \text{cm}^2 / \text{minute}$
Diethylphthalate (Phthalic acid diethylester)	84-66-2	> 240		NT	
Diisobutyl ketone	108-83-8	> 240		> 240	
Dimercaptothiodiazole 10% in Butyldioxotol/MEK 1:1	1072-71-5	> 240		> 240	
N, N Dimethyl- Cyclohexylamine	98-94-2	> 480		NT	
Dimethylmercury	593-74-8	60		NT	
Dimethyl Sulfoxide	67-68-5	> 480		194	2.2
N, N-Dimethylacetamide	127-19-5	> 240		> 240	
2 – Dimethylamino - Ethanol	108-01-0	350		NT	
N, N-Dimethylaniline	121-69-7	> 240		> 240	
Dimethylethanolamine	108-01-0	> 240		> 240	
Dimethylethylamine	598-56-1	9	NC	2	NC
Dimethylformamide	68-12-2	> 1440		> 240	
Dimethylsulphate	77-78-1	> 240		> 240	C
Dinol	—	> 240		NT	
Dinoseb (47, 6% in Xylene)	88-85-7 1330-20-7	> 240		> 240	
1, 4-Dioxane	123-91-1	> 480		> 240	C
Dipentene (limonen)	138-86-3	> 480		36	
2, 3-Diphenyl-2-cyclopropen- 1-one 2% Acetone w/10% Propyleneglycol	886-38-4 67-64-1 57-55-6	> 240		> 240	
Di-(2-ethylhexyl) phthalate	117-81-7	> 240		> 240	C
Diquat Dibromide	85-00-7	> 240		> 240	
Dodecane	112-40-3	> 480		> 240	
Dynasylan BH-N	—	> 480		NT	
Epichlorohydrin	106-89-8	> 240		> 240	C
EPOXIDHARZ-KLEBSTOFF® Schüco art. 298011 A	—	> 240		> 240	
EPOXIDHARZ-KLEBSTOFF® Schüco art. 298011 B	—	> 240		> 240	
Ethanol 96%	64-17-5	> 480		> 240	
Ethanolamine	141-43-5	> 480		> 240	
Ethidium Bromide	1239-45-8	> 480		NT	
2-(2-Aminoethoxy)ethanol	929-06-6	> 240		> 240	
2-Ethoxy-1-Propanol	19089-45-5	> 240		> 240	
Ethyl Acetate	141-78-6	> 1440		> 240	
Ethyl Acrylate	140-88-5	> 240		> 240	C
Ethyl Benzene	100-41-4	> 480		> 480	
Ethyl Glycol	110-80-5	> 240		> 240	
Ethyl Glycol Acetate	111-15-9	> 240		> 240	
Ethylendiamine	107-15-3	92	NC	47	NC
Ethylene Glycol	107-21-1	> 240		> 240	
Ethylene Oxide	75-21-8	> 240		NT	
Extraction petrol 80/110	—	> 240		> 240	
Fluoroboric solution: Hydrofluoric acid Boric acid Nitric acid	7664-39-3 10043-35-3 7697-37-2	> 240		NT	
Formaldehyde	50-00-0	> 240		> 240	
Formaldehyde 37% w/10% Methanol	50-00-0 67-56-1	> 480		> 240	C

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Formic Acid 98-100%	64-18-6	120	NC	60	NC
Freon 113	76-13-1	> 240		> 240	
Furfural	98-01-1	> 480		> 240	
Furfuryl Alcohol	98-00-0	> 480		> 240	
GammaButyrolactone Merck 801661	96-48-0	> 480		NT	
GLANCER (mixture)	—	> 240		NT	
Glutardialdehyde 2% in Water	111-30-8	> 240		> 240	
Glutardialdehyde 25% in Water	111-30-8	> 240		> 240	
Glycerol	56-81-5	> 240		> 240	
Glycerol Monothioglycolate 80%	30618-84-9	> 240		NT	
Glycerolpropoxy-triacrylate	—	> 240		> 240	
GLUMA	—	> 240		NT	
Heptane	142-82-5	> 480		> 240	
1, 1, 1, 3, 3, 3 – Hexamethyl Disilazane	999-97-3	> 240		> 240	
n-Hexane	110-54-3	> 1440		> 240	
Hexane/Benzene 9:1	110-54-3 71-43-2	> 240		> 240	C
Hydraulic oils	—	> 240		> 240	
Hydrazin 80%	7803-57-8	> 240		> 240	C
Hydrocarbon Mixture (K-Blend)	—	> 240		NT	
Hydrochloric Acid 2N	7647-01-0	> 240		> 240	
Hydrochloric Acid 37%	7647-01-0	> 240		NT	
Hydrochloric Acid 37% /Nitric Acid 65% 3:1	7647-01-0 7697-37-2	> 240		> 240	
Hydrofluoric Acid 10%	7664-39-3	> 240		120	NC
Hydrofluoric Acid 30%	7664-39-3	> 240		120	NC
Hydrofluoric Acid 40%	7664-39-3	> 240		120	NC
Hydrofluoric Acid 49%	7664-39-3	> 240		30	NC
Hydrofluoric Acid 70%	7664-39-3	60	NC	30	NC
Hydrofluoric Acid 100%	7664-39-3	15			
Hydrogen Cyanide	74-90-8	> 240		NT	
Hydrogen Peroxide 30%	7722-84-1	> 240		NT	
Hydroquinone 33% in Ethanol	123-31-9 64-17-5	> 240		> 240	
2-Hydroxy-Methacrylate (HEMA)	868-77-9	> 240		NT	
2-Hydroxyethyl-N, N, N- Trimethyl ammonium Hydroxid	—	> 240		> 240	
2-Hydroxyethyl Acrylate	818-61-1	> 240		> 240	
IMRON 192R S/Hexamethylene Diisocyanate 37%	—	> 240		NT	
Isobutanol	78-83-1				
Isopentylalcohol/ Chloroform 1:24	123-51-3 67-66-3	176	NC	40	NC
Isophorone	78-59-1	> 240		> 240	
Isopropanol	67-63-0	> 240		> 240	
Isopropyl Nitrate	1712-64-7	> 240		NT	
Jet Fuel (Jet A-1/Shell)	—	> 240		> 240	

Chemical	C A S Reg. No.	21° C (70° F)		35° C (95° F)		
		Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute	Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute	
KOVAC'S INDOLREAGENT®	—	> 240		> 240		
Lubricat. Oil, DTE 25	—	> 240		> 240		
Malathion	121-75-5	> 240		NT		
2-Mercaptoethanol	60-24-2	> 240		> 240		
Mercury (Hg)	7939-97-6	> 480		NT		
Methacrylic Acid	79-41-4	> 480		> 240		
Methacrylic Adhesive	—	> 240		> 240		
Methanol	67-56-1	> 480		30	1.6	
1-Methoxy-2-Propanol	107-98-2	> 240		> 240		
1-Methoxy-2-Propylacetate	108-65-6	> 240		> 240		
2-Methoxyethanol	109-86-4	> 240		> 240		
2-Methoxyethyl-Acetate	110-49-6	> 240		> 240		
Methyl Acetate	79-20-9	> 480		> 240		
Methyl Ethyl Ketone (MEK)	78-93-3	> 1440		> 240		
Methyl Ethyl Ketone/ Toluene 1:1	78-93-3 108-88-3	114	NC	9	NC	
5-Methyl-2-Hexanone (Methyl Isoamyl Ketone)	110-12-3	> 480		> 240		
Methyl Isobutyl Ketone	108-10-1	> 480		> 240		
Methyl Methacrylate	80-62-6	> 480		> 480		
5-Methyl-5-Norbornene 2, 3-Dicarboxylic Anhydride (Methyl Nadic Anhydride)	25134-21-8	> 240		NT		
Methyl-pentyl-ketone	110-43-0	> 240		> 240		
Methyl n-propyl Ketone (2-Pentanone)	107-87-9	> 480		NT		
N-Methyl-2-Pyrrolidone	872-50-4	> 240		> 240		
Methyl-tert-Butyl Ether	1634-04-4	> 480		NT		
Methyl Trichlorosilane	75-79-6	> 240		NT		
Methylamine 40%	74895	> 240		80	1.3	
4, 4' -Methylene bis (MOCA, MBOCA or MBOCHA) (2-Chloroaniline) 50% in Acetone	101-14-4 67-64-1	> 240		NT		C
Methylene Bisphenyl- 4, 4-diisocyanate (MDI)	101-68-8	> 480		> 240		
Methylene Chloride	75-09-2	> 1440		> 240		C
4, 4' -Methylenedianiline 10% in Isopropyl alcohol	537-65-5 67-63-0	> 240		NT		
Methylenedianiline 50% in MEK (MDA)	537-65-5 78-93-3	> 480		NT		C
Methyliodide	74-88-4	123	NC	8	NC	
Mixture of: N-Methyl Pyrrolidone Butyrolactone Styrene	872-50-4 96-48-0 100-42-5	> 480		> 480		
Mixture of: Methylene Chloride 20% Trichlorethylene 20% Xylene 45% Mineral Spirits 15%	75-09-02 79-01-06 1330-20-7 8032-32-4	> 240		> 240		
Mixture of: MEK 66% Cyclohexanone 24% Toluene 10%	78-93-3 108-94-1 108-88-3	> 480		NT		

Chemical	C A S Reg. No.	21° C (70° F)		35° C (95° F)		
		Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute	Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute	
Mixture of: 1, 3-Phenylenediamine 30% Ethylacetate 70%	108-45-2 141-78-6	> 480		NT		
Mixture of: Toluene 50% Isopropylalcohol 25% Methylethylketone 25%	108-88-3 67-63-0 78-93-3	> 480		NT		
Morpholine	110-91-8	> 480		94	2.5	
Mustard Gas	505-60-2	> 1440		> 1440		C
N35091 Cleaning agent	—	> 480		NT		
N 39/3010 Thinner	—	> 480		NT		
Naphthalene 25% in Toluene	91-20-3	> 240		> 240		
1-Naphthylamine 25% in Isopropanol	134-32-7	> 240		> 240		
Nicotine	54-11-5	> 240		> 240		
Ninhydrin 4% in 2-Methoxyethanol	485-47-2	> 240		> 240		
Nitric Acid 2N	7697-37-2	> 480		> 240		
Nitric Acid 65%	7697-37-2	> 40		NT		
Nitric Acid 100% (red fuming)	7697-37-2	180	NC	60		
Nitrobenzene	98-95-3	> 1440		> 240		
2-Nitrobenzylbromide	3958-60-9	> 240		> 240		
4-Nitrodiphenylamine	119-75-5	> 240		> 240		
Nitroethane	79-24-1	> 480		> 240		
Nitroglycerol	55-63-0	> 240		NT		
Nitroglycol	628-96-6	> 240		NT		
Nitromethane	75-52-5	> 480		> 240		
2-Nitropropane	79-46-9	> 240		> 240		C
O-Toluidine	95-53-4	> 480		> 480		
Orthocid 83	133-06-2	> 240		NT		
KVK PARATHION 35R	—	> 240		NT		
PAINTSTRIPPER D23® 30% in Dichloromethane	—	200	NC	NT		
PCB 12/60 Chloric	1336-36-3	> 240		> 240		C
Pentane	109-66-0	> 480		> 240		
Perchloric Acid 70%	760 1-90-3	> 240		> 240		
Perchloroethylene	127-18-4	> 480		> 480		C
PERGA KAN® Domo/Master A/S - DK	—	> 240		> 240		
PERMA FLUID "MICA" (8% Ammonia Thioglycolate)	—	> 240		> 240		
Petroleum (Gasoline) 95 & 96 unleaded/leaded	93572-29-3	> 240		> 240		
Petroleum (Gasoline) (Shell specialty)	—	> 240		> 240		
80% Petroleum 20% n-Methyl-2-pyrrolidone	— 872-50-4	> 240		> 240		
Petroleum ether 80/110	8032-32-4	> 480		> 480		
Phthalic Acid Anhydride	85-44-9	> 240		NT		
Phenol 50% in MEK	108-95-2 78-93-3	> 240		> 240		

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Phenol/Isopentanol/ Chloroform 25:1:24	108-95-2 123-51-3 67-66-3	130	NC	70	NC	C
Phosphoric Acid 85%	766-38-2	> 240		> 240		
Phosphorylic Chloride	10025-87-3	> 240		> 240		
PHOTO RESIST 1450® (INMOS)	111-15-9 1330-20-7 123-86-4	> 240		> 240		
3-Picolyl Chloride Hydrochloride 25% in water	6959-48-4	> 240		> 240		
3-Picolyl Chloride Hydrochloride/ Acetonitrile/water 4:3:9	6959-48-4 75-05-8	> 240		> 240		
4-Picolylchloride hydrochloride	1822-51-1	> 240		> 240		
Polyethyleneglycol	25322-68-3	> 480		NT		
Polyol mixture	—	> 480		NT		
Posistrip LE, (INMOS)	110-91-8 96-48-0 872-50-4	> 240		> 240		
Potassium Hydroxide 50%	1310-58-3	> 240		> 240		
Potass. Permanganate Solution, Saturated	7722-64-7	> 240		NT		
PRAMITOLR	1610-18-0	> 240		NT		
PRO STRIPR (Mixture): Monoethanolamine Glycol Ether Isopropanol Polyoxyethylene Phenylether Phosphate Ammonium Hydroxide	141-43-5 111-76-2 67-63-0 39464-70-5 1336-21-6	> 240		NT		
1-Propanol	71-23-8	> 240		> 240		
Propiophenone	93-55-0	> 240		> 240		
Propyl Acetate	109-60-4	> 480		> 240		
Propylene Glycol	57-55-6	> 240		> 240		
Propylene Glycol Morioethyl Ether Acetate	19234-20-9	> 240		> 240		
1, 2-Propylene Oxide	75-56-9	> 480		NT		
1, 2-Propylene Oxide in Water	75-56-9	> 240		26	3.0	C
Propyzamide 50% (Kerb 50®) 10% suspended in Water	23950-58-5	> 240		NT		
Pyridine	110-86-1	> 480		> 240		
PYROTEC HFD 46R	—	> 240		NT		
Quinoline	91-22-5	> 240		> 240		
REGLONER	85-00-7	> 240		NT		
830 RESIST STRIPPERR (INMOS)	929-06-6 872-50-4	> 240		> 240		
ROUNDUP® Glyphosat-isopropylamine derivate 450 g/l	38641-94-0	> 240		NT		
SADOFLOSS PRIMER® 17	—	> 240		> 240		
SADOFLOSS PRIMER® 513	—	> 240	64	NC		

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Silver Cyanide 4%	506-64-9	> 240		NT		
SKYDROL® (mix of Tributyl phosphate/ Dibutylphenolphosphate	126-73-8	> 480		NT		
Sodium Hydroxide 2N	1310-73-2	> 1440		> 240		
Sodium Hydroxide 50%	1310-73-2	> 480		> 240		
Sodium Hydroxide 96-98%	1310-73-2	> 480		NT		
Sodium Hypochlorite 15% in Water	7681-52-9	> 240		> 240		
SOLMASTER® Methylene Chloride/Ethanol	—	> 240		> 240		
STAR THINNER 7040® Xylene/Butylglycol	1330-20-7 111-76-2	> 240		> 240		
Styrene	100-42-5	> 1440		> 240		
Sulphuric Acid 90%	7664-93-9	> 480		> 240		
Sulphuric Acid 93%	7664-93-9	> 1440		NT		
Sulphuric Acid 96% w.65% SO <sub>3</sub> (oleum)	7664-93-9	120	NC	30	NC	
Sulphuric Acid 2N	7664-93-9	> 240		> 240		C
Sulphuric Acid 96% Hydrogen Peroxide 30% 3:1	7664-93-9 7722-84-1	> 480		NT		
Tetrachloroethylene	127-18-4	> 1440		> 240		
Tetraethyl Orthosilicate	78-10-4	> 480		> 480		
Tetrafluoroboric Acid (HBF <sub>4</sub> ) 35%	16872-11-0	> 240		NT		
Tetrahydrofuran	109-99-9	> 480		> 240		
Tetrahydrofuran 50%	109-99-9					
Toluene 50%	108-88-3	89	NC	NT		
Tetramethyl Ammonium Hydroxide in water	75-59-2	> 240		> 240		
Thioglycolic Acid	123-93-3	> 240		> 240		
Thiourea 7, 5% in 50% Ethanol	62-56-6 64-17-5	> 240		> 240		
Toluene	108-88-3	> 1440		> 240		
Toluene-2, 4-Diisocyanate TDI 40% in Xylene	584-84-9 1330-20-7	> 480		> 240		
Toluene Isopropanol 1:1	108-88-3 67-63-0	> 240		> 240		
Transformer Oil Nytro 10X, Nynäs/Oslo	—	> 240		> 240		
Transmission Oil Opel, Dextron GM 6137M	—	> 240		> 240		
Tributylphosphate	126-73-8	> 240		> 240		
1, 1, 1-Trichloroethane	71-55-6	> 480		> 240		C
1, 1, 1-Trichloroethane w. 3% 1, 4-Dioxane	71-55-6 123-91-1	> 240		> 240		
1, 1, 1-Trichloroethane /Ethanol/Turpentine amounts unknown	71-55-6 64-17-5 8006-64-2	> 240		NT		
1, 1, 1-Trichloroethane 73% Methylene Chloride 17% Dodecylbensulphophonacid 10%	71-55-6 75-02-9 2776-87-0	> 240		NT		
1, 1, 1-Trichloroethane/ Propyleneglycolmono- ethyletheracetate 3:1 Trichloroethylene	71-55-6 19234-20-9 79-01-6	> 240		> 240		

Chemical	C A S Reg. No.	21° C (70° F)		35° C (95° F)	
		Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute	Break-Through Time minutes	Permeation Rate µg / cm <sup>2</sup> / minute
Triethanolamine 50% in Water	102-71-6	> 240		> 240	
Triethylenediamine	280-57-9	> 480		NT	
Triethyldiamine 25% in Water	280-57-9	> 240		220	NT
Triethylene Tetramine (TETA) 50% in MEK	112-24-3 78-93-3	> 240		> 240	
Trifluoroacetic Acid	76-05-1	> 240		> 240	
Triphosgene	32315-10-9	> 240		> 240	
Tripropylene glycol Diacrylate	42978-66-5	> 240		> 240	
TURCO 5092® (Stripping agent)	—	132	NC	28	NC
U-V RESIN 20074®	—	> 240		> 240	
Vinyl Acetate	108-05-4	> 480		> 240	
Vinyl Chloride 99%	75-01-4	> 480		> 480	
N-Vinylpyrrolidone	88-12-0	> 240		> 240	
White Spirit (Naphtha)	8052-41-3	> 480		> 240	
XYLAMON®	—	> 240		NT	
Xylene	1330-20-7	> 1440		> 240	
Xylene/Ethyl Glycol 1:1	1330-20-7, 110-80-5	> 240		> 240	

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