

Ansell Nitrile & Neoprene lab thickness gloves

Ansell Chemical Guardian Report

Nov 01, 2019

Ansell



Legend

Permeation Breakthrough Times	
<10	Not Recommended
10-30	Splash Protection
30-60	Splash Protection
60-120	Medium Protection
120-240	Medium Protection
240-480	Good Protection
>480	Good Protection

Permeation breakthrough time is the time (in minutes) for the chemical in question to be permeating through the material at a rate of $1.0 \mu\text{g}/\text{cm}^2/\text{min}$ (as per EN ISO 374) or $0.1 \mu\text{g}/\text{cm}^2/\text{min}$ (as per ASTM F739).

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.

Permeation Breakthrough Times

The permeation breakthrough times present in this chart were evaluated according to the ASTM F739 standard.

Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	107-21-1	1,2-ethanediol	100	30-60	30-60	30-60	30-60	> 480	30-60	30-60	30-60	30-60
sgl	57-55-6	1,2-Propanediol	100	30-60	30-60	30-60	30-60	> 480	30-60	30-60	30-60	60-120
sgl	107-88-0	1,3-Butanediol	100	120-240	120-240	120-240	120-240	> 480	120-240	120-240	120-240	120-240
sgl	108-38-3	1,3-Dimethylbenzene	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	123-91-1	1,4-dioxane	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	109-99-9	1,4-epoxybutane	100	< 10	< 10	< 10	< 10	2	< 10	< 10	< 10	< 10
sgl	822-06-0	1,6-Hexanediol diisocyanate	100	< 10	< 10	< 10	< 10	10-30	< 10	< 10	< 10	< 10
sgl	109-60-4	1-Acetoxypropane	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	78-96-6	1-Amino-2-Propanol	100	120-240	120-240	120-240	120-240	> 480	120-240	120-240	120-240	120-240
sgl	71-36-3	1-butanol	100	30-60	30-60	30-60	30-60	434	240-480	240-480	240-480	> 480
sgl	106-89-8	1-Chlor-2,3-epoxypropane	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	592-41-6	1-Hexene	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	108-65-6	1-Methoxy-2-Methylethylacetate	100	< 10	< 10	< 10	< 10	30-60	< 10	< 10	< 10	< 10
sgl	107-98-2	1-Methoxy-2-Propanol	100	< 10	< 10	< 10	10-30	30-60	< 10	10-30	10-30	10-30
sgl	111-87-5	1-Octanol	100	10-30	60-120	10-30	120-240	240-480	10-30	10-30	10-30	30-60
sgl	71-23-8	1-propanol	100	10-30	10-30	10-30	10-30	120-240	60-120	60-120	60-120	60-120
sgl	540-84-1	2, 2, 4-Trimethylpentane	100	10-30	240-480	10-30	> 480	> 480	10-30	10-30	60-120	30-60

Permeation Breakthrough Times

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Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	111-42-2	2,2'-dihydroxydiethylamine	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	112-34-5	2-(2-butoxyethoxy)-ethanol	100	30-60	30-60	30-60	60-120	240-480	10-30	10-30	10-30	10-30
sgl	141-43-5	2-Amino ethanol	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	78-93-3	2-butanone	100	< 10	< 10	< 10	< 10	3	< 10	< 10	< 10	< 10
sgl	111-76-2	2-Butoxyethanol	100	10-30	10-30	10-30	10-30	240-480	30-60	30-60	30-60	60-120
sgl	107-07-3	2-chloroethanol	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	95-49-8	2-Chlorotoluene	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	110-80-5	2-Ethoxyethanol	100	< 10	< 10	< 10	4	120-240	30-60	30-60	30-60	30-60
sgl	111-15-9	2-Ethoxyethylacetate	100	10-30	10-30	10-30	10-30	30-60	< 10	< 10	< 10	10-30
sgl	1634-04-4	2-Methoxy-2-methylpropane	100	10-30	10-30	10-30	10-30	240-480	< 10	< 10	< 10	< 10
sgl	107-41-5	2-Methyl-2,4-pentanediol	100	60-120	60-120	60-120	60-120	> 480	60-120	60-120	60-120	60-120
sgl	97-63-2	2-Methyl-2-Propenoic Acid Ethyl Ester	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	67-63-0	2-propanol	100	10-30	30-60	10-30	60-120	240-480	< 10	60-120	30-60	120-240
sgl	67-64-1	2-Propanone	100	< 10	< 10	< 10	< 10	3	< 10	< 10	< 10	< 10
sgl	590-92-1	3-bromopropionic acid	100	60-120	60-120	60-120	60-120	> 480	60-120	60-120	60-120	60-120
sgl	96-48-0	4-Butyrolactone	100	< 10	< 10	< 10	< 10	< 10	10-30	10-30	10-30	10-30
sgl	106-43-4	4-Chlorotoluene	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Permeation Breakthrough Times

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Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	75-07-0	Acetaldehyde	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	64-19-7	Acetic acid	100	< 10	< 10	< 10	< 10	30	10-30	10-30	10-30	60-120
sgl	108-24-7	Acetic acid anhydride	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	141-78-6	Acetic acid ethyl ester	100	< 10	< 10	< 10	< 10	4	< 10	< 10	< 10	< 10
sgl	75-05-8	Acetonitrile	100	< 10	< 10	< 10	< 10	5	< 10	< 10	< 10	< 10
sgl	79-10-7	Acrylic acid	100	< 10	< 10	< 10	< 10	10-30	30-60	30-60	30-60	30-60
sgl	107-13-1	Acrylonitrile	100	< 10	< 10	< 10	< 10	2	< 10	< 10	< 10	< 10
sgl	64-17-5	Alcohol	100	< 10	< 10	< 10	< 10	120-240	10-30	10-30	< 10	10-30
sgl	64742-82-1	Aliphatic hydrocarbon solvent	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	8002-05-9	Aliphatic petroleum hydrocarbons	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	107-18-6	Allyl alcohol	100	< 10	< 10	< 10	< 10	10-30	< 10	< 10	< 10	< 10
sgl	7664-41-7	Ammonia, anhydrous	100	< 10	< 10	< 10	11	30-60	< 10	< 10	< 10	< 10
sgl	1336-21-6	Ammonia, solution in water	25	< 10	< 10	< 10	10-30	65	10-30	< 10	< 10	10-30
sgl	1336-21-6	Ammonium hydroxide	35	< 10	< 10	< 10	< 10	10-30	< 10	< 10	< 10	< 10
sgl	1336-21-6	Ammonium hydroxide	10	10-30	10-30	10-30	30-60	60-120	30-60	10-30	10-30	30-60
sgl	100-52-7	Benzaldehyde	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	62-53-3	Benzenamine	100	< 10	< 10	< 10	< 10	10-30	< 10	< 10	< 10	< 10

Permeation Breakthrough Times

The permeation breakthrough times present in this chart were evaluated according to the ASTM F739 standard.

Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	71-43-2	Benzene	100	< 10	< 10	< 10	< 10	5	< 10	< 10	< 10	< 10
sgl	108-90-7	Benzene chloride	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	56-23-5	Benziform	100	< 10	< 10	< 10	< 10	30	< 10	< 10	< 10	< 10
sgl	8032-32-4	Benzine	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	68476-30-2	Benzine, super	100	10-30	60-120	10-30	60-120	240-480	10-30	10-30	10-30	30-60
sgl	98-88-4	benzoyl chloride	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	100-51-6	Benzyl alcohol	100	< 10	< 10	< 10	10-30	120-240	< 10	< 10	< 10	< 10
sgl	100-44-7	Benzyl chloride	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	100-46-9	Benzylamine	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	7681-52-9	Bleach	15	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	7726-95-6	Bromine	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	7726-95-6	Bromine water (Saturated solution)	3									
sgl	123-86-4	Butyl acetate	100	< 10	< 10	< 10	< 10	10-30	< 10	< 10	< 10	< 10
sgl	10043-52-4	Calcium chloride, aqueous solution	99	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	1305-62-0	Calcium Hydroxide, aqueous solution	99	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	1333-86-4	Carbon black	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	75-15-0	Carbon disulphide	100	< 10	< 10	< 10	< 10	1	< 10	< 10	< 10	< 10

Permeation Breakthrough Times

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Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	1310-73-2	CAUSDETA 25	30	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	7782-50-5	Chlorine, gas	100									
sgl	79-11-8	Chloroacetic acid, aqueous solution	79									
sgl	67-66-3	Chloroform	100	< 10	< 10	< 10	< 10	2	< 10	< 10	< 10	< 10
sgl	74-87-3	Chloromethane	100									
sgl	7790-94-5	Chlorosulfuric acid	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	1333-82-0	Chromium trioxide, 50%	50	< 10	< 10	< 10	10-30	240-480	10-30	10-30	10-30	
sgl	1319-77-3	Cresol, isomeric mixture	100	< 10	< 10	< 10	10-30	10-30	10-30	10-30	10-30	10-30
sgl	8007-45-2	crude coal tar	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	< 10	10-30
sgl	68308-34-9	Crude oil-shale oil	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	< 10	10-30
sgl	98-82-8	Cumene	100	10-30	10-30	10-30	10-30	10-30	< 10	< 10	< 10	< 10
sgl	110-82-7	Cyclohexane	100	10-30	> 480	10-30	> 480	> 480	< 10	< 10	< 10	< 10
sgl	108-93-0	Cyclohexanol	100	10-30	60-120	10-30	120-240	> 480	10-30	10-30	10-30	30-60
sgl	108-91-8	Cyclohexylamine	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	75-09-2	DCM	100	< 10	< 10	< 10	< 10	1	< 10	< 10	< 10	< 10
sgl	26471-62-5	Desmodur T80	100	30-60	30-60	30-60	60-120	6	< 10	< 10	< 10	10-30
sgl	110-05-4	di-t-butylperoxide	100	10-30	10-30	10-30	10-30	120-240	10-30	10-30	10-30	10-30

Permeation Breakthrough Times

The permeation breakthrough times present in this chart were evaluated according to the ASTM F739 standard.

Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	111-92-2	Dibutylamine	100	10-30	10-30	10-30	41	60-120	< 10	< 10	< 10	< 10
sgl	68476-34-6	Diesel fuel	100	10-30	240-480	10-30	> 480	> 480	< 10	30-60	30-60	30-60
sgl	68334-30-5	Diesel LS	100	10-30	240-480	10-30	> 480	> 480	< 10	< 10	< 10	10-30
sgl	109-89-7	Diethylamine	100	< 10	< 10	< 10	< 10	6	< 10	< 10	< 10	< 10
sgl	110-85-0	Diethylenediamine	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	60-29-7	Diethyloxide	100	< 10	< 10	< 10	< 10	10-30	< 10	< 10	< 10	< 10
sgl	108-20-3	Diisopropylether	100	< 10	< 10	< 10	< 10	60-120	< 10	< 10	< 10	< 10
sgl	624-49-7	Dimethyl fumarate	100	240-480	240-480	240-480	240-480	> 480	240-480	240-480	240-480	240-480
sgl	75-18-3	Dimethyl sulfide	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	124-40-3	Dimethylamine, aqueous solution	40	30-60	30-60	30-60	60-120	240-480	60-120	60-120	60-120	60-120
sgl	77-78-1	Dimethylsulfate	100	< 10	< 10	< 10	< 10	10-30	30-60	30-60	30-60	30-60
sgl	67-68-5	Dimethylsulphoxide	100	10-30	< 10	10-30	< 10	93	10-30	10-30	10-30	30-60
sgl	64742-47-8	Distillate (petroleum), hydrotreated light	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	< 10	10-30
sgl	68-12-2	DMFA	100	< 10	< 10	< 10	< 10	9	< 10	< 10	< 10	10-30
sgl	75-08-1	Ethanthiol	100	10-30	10-30	10-30	10-30	120-240	< 10	< 10	< 10	10-30
sgl	64-17-5	ethanol	96	< 10	< 10	< 10	< 10	60-120	10-30	< 10	< 10	10-30
sgl	64-17-5	ethanol	95	< 10	10-30	< 10	10-30	60-120	10-30	10-30	10-30	10-30

Permeation Breakthrough Times

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Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	1239-45-8	Ethidiumbromide, saturated aqueous solution	5	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	64-17-5	Ethyl alcohol	70	10-30	10-30	10-30	10-30	120-240	10-30	10-30	10-30	30-60
sgl	107-12-0	Ethyl Cyanide	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	75-21-8	Ethylene Oxide	100									
sgl	64742-48-9	EXXSOL™ D40	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	7758-94-3	Ferric (II) chloride	41	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	10025-77-1	Ferric chloride, hexahydrate	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	10025-77-1	Ferric chloride, hexahydrate, aqueous solution	99	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	50-00-0	Formaldehyde	35	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	50-00-0	Formaldehyde	10	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	50-00-0	formaline	37	> 480	> 480	> 480	> 480	> 480	< 10	< 10	< 10	< 10
sgl	64-18-6	Formic acid	98	< 10	< 10	< 10	< 10	10-30	60-120	60-120	60-120	240-480
sgl	64-18-6	Formic acid	90	< 10	< 10	< 10	< 10	10-30	60-120	60-120	60-120	240-480
sgl	64-18-6	Formic acid	100	< 10	< 10	< 10	< 10	20	60-120	60-120	60-120	240-480
sgl	8006-61-9	Gasoline, white	100	< 10	30-60	< 10	60-120	120-240	< 10	< 10	< 10	30-60
sgl	111-30-8	Glutaraldehyde, 50%	50	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480

Ansell Nitrile & Neoprene lab thickness gloves

Permeation Breakthrough Times

The permeation breakthrough times present in this chart were evaluated according to the ASTM F739 standard.

Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	56-81-5	glycerol	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	64742-94-5	Heavy aromatic naphtha solvent	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	142-82-5	Heptane	100	> 480	> 480	60-120	> 480	> 480	< 10	< 10	< 10	10-30
sgl	999-97-3	Hexamethyldisilazane	100	240-480	240-480	240-480	240-480	> 480	240-480	240-480	120-240	240-480
sgl	110-54-3	Hexane	100	< 10	240-480	< 10	> 480	> 480	< 10	< 10	< 10	10-30
sgl	7647-01-0	Hydrochloric acid	30	60-120	60-120	60-120	60-120	> 480	120-240	240-480	240-480	> 480
sgl	7647-01-0	Hydrochloric acid	37	60-120	60-120	60-120	30-60	> 480	60-120	60-120	60-120	> 480
sgl	7647-01-0	Hydrogen chloride	100									
sgl	7722-84-1	Hydrogen peroxide	30	120-240	< 10	240-480	30-60	> 480	> 480	> 480	240-480	> 480
sgl	78-78-4	i-pentane	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	67-63-0	IPA	70	30-60	60-120	30-60	120-240	240-480	10-30	60-120	60-120	240-480
sgl	7705-08-0	Iron (III) chloride, aqueous solution	50	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	7705-08-0	Iron (III) Chloride, Saturated solution in water	85	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	78-59-1	Isophorone	100	10-30	10-30	10-30	30-60	60-120	< 10	< 10	< 10	< 10
sgl	1310-58-3	Kalium hydroxide, 50%	86	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	64742-81-0	Kerosene, hydrodesulfurized	100	10-30	120-240	10-30	> 480	> 480	< 10	< 10	< 10	10-30
sgl	7439-97-6	kwik	100	> 480	> 480	> 480	> 480	> 480	120-240	120-240	120-240	120-240

Permeation Breakthrough Times

The permeation breakthrough times present in this chart were evaluated according to the ASTM F739 standard.

Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	110-16-7	Maleic acid, saturated aqueous solution	99	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	108-31-6	Maleic anhydride	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	67-56-1	Methanol	96	< 10	< 10	< 10	< 10	10-30	< 10	< 10	< 10	30-60
sgl	67-56-1	Methanol	100	< 10	< 10	< 10	< 10	10-30	< 10	< 10	< 10	10-30
sgl	96-33-3	Methyl acrylate	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	79-22-1	Methyl chloroformate	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	584-84-9	Methylbenzene-2,4-diisocyanate	100	30-60	30-60	30-60	60-120	120-240	10-30	10-30	10-30	10-30
sgl	108-10-1	MIBK	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	8012-95-1	Mineral oil	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	8042-47-5	Mineral oil, light and heavy	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	< 10	10-30
sgl	121-44-8	N,N-Diethylethanamine	100	10-30	60-120	< 10	120-240	287	< 10	< 10	< 10	< 10
sgl	872-50-4	N-Methyl-2-pyrrolidone	100	< 10	< 10	< 10	< 1	7	< 10	< 10	< 10	< 10
sgl	111-65-9	n-Octane	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	109-66-0	n-Pentane	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	107-10-8	n-Propylamine	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	102-82-9	n-tributylamine	100	240-480	240-480	240-480	> 480	> 480	30-60	31	30-60	30-60
sgl	1120-21-4	n-Undecane	100	10-30	240-480	10-30	> 480	> 480	< 10	< 10	< 10	10-30

Permeation Breakthrough Times

The permeation breakthrough times present in this chart were evaluated according to the ASTM F739 standard.

Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	8030-30-6	Naphtha	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	64742-49-0	Naphtha, petroleum, hydrotreated light	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	7647-14-5	natriumchlorid	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	54-11-5	Nicotine	100	10-30	10-30	10-30	10-30	120-240	< 10	< 10	< 10	< 10
sgl	7697-37-2	Nitric acid	65	< 10	< 10	< 10	< 10	30-60	10-30	10-30	10-30	> 480
sgl	7697-37-2	Nitric acid	70	< 10	< 10	< 10	< 10	32	10-30	10-30	10-30	> 480
sgl	7697-37-2	Nitric acid, fuming	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	98-95-3	Nitrobenzene	100	< 10	< 10	< 10	< 10	30-60	< 10	< 10	< 10	< 10
sgl	95-53-4	o-Methylaniline	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	7601-90-3	Perchloric acid	30	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	127-18-4	Perchloroethylene	100	< 10	< 10	< 10	< 10	60-120	< 10	< 10	< 10	< 10
sgl	108-95-2	Phenol	90	< 10	< 10	< 10	< 10	10-30	< 10	10-30	10-30	30-60
sgl	7664-38-2	Phosphoric acid	85	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	75-98-9	pivalic acid	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	25322-68-3	Polyethylene glycol, molar mass 200-600	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	1310-58-3	Potassium Hydroxide, aqueous solutions	30	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480

Permeation Breakthrough Times

The permeation breakthrough times present in this chart were evaluated according to the ASTM F739 standard.

Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	7722-64-7	Potassium permanganate, Saturated solution	6	60-120	60-120	60-120	120-240	> 480	120-240	120-240	120-240	120-240
sgl	79-09-4	Propanoic acid	100	10-30	10-30	10-30	10-30	30-60	10-30	10-30	10-30	30-60
sgl	115-07-1	propene	100									
sgl	110-86-1	Pyridine	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	123-75-1	Pyrrolidine	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
sgl	7681-38-1	Sodium bisulfate, aqueous solutions	40	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	143-33-9	Sodium cyanide, Saturated solution	58	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	7681-49-4	Sodium Fluoride (saturated)	4	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	16893-85-9	Sodium Fluorosilicate, aqueous solutions	1	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	1310-73-2	Sodium Hydroxide	50	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	1310-73-2	Sodium Hydroxide	40	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	7681-52-9	Sodium Hypochlorite, aqueous solution	5	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	64742-95-6	Solvent naphtha (petroleum), light arom. (bp. 135-210 C)	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	8052-41-3	Stoddard solvent	100	10-30	240-480	10-30	240-480	> 480	< 10	< 10	10-30	10-30
sgl	100-42-5	styreen	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	7664-93-9	Sulfuric acid	50	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480

Permeation Breakthrough Times

The permeation breakthrough times present in this chart were evaluated according to the ASTM F739 standard.

Material				Nitrile	Nitrile	Nitrile	Nitrile	Nitrile /Neoprene	Neoprene	Neoprene	Neoprene	Neoprene
Thickness (mm)				0.11 mm 4.3 mil	0.11 mm 4.3 mil	0.12 mm 4.7 mil	0.12 mm 4.7 mil	0.19 mm 7.8 mil	0.13 mm 5.1 mil	0.13 mm 5 mil	0.13 mm 5.1 mil	0.175 mm 7 mil
Brand				MICROFLEX®	TouchNTuff®	MICROFLEX®	TouchNTuff®	MICROFLEX®	MICROFLEX®	NeoTouch	TouchNTuff®	DermaShield
Type	CAS	Chemical Name	%	93-843 Supreno SE	92-675	93-852 MidKnight	92- 500.600.605 / 93- 250.300.700	93-260.360	Neopro	25-101.201	73-300.500	73- 701.711.721
sgl	7664-93-9	Sulfuric acid	99	< 10	< 10	< 10	< 10	30-60	< 10	< 10	< 10	30-60
sgl	7719-09-7	Sulfurous oxychloride	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	7664-93-9	Sulphuric acid	96	10-30	< 10	10-30	10-30	30-60	10-30	10-30	120-240	60-120
sgl	7664-93-9	Sulphuric acid	95	10-30	< 10	10-30	10-30	30-60	10-30	10-30	60-120	60-120
sgl	75-65-0	t-butanol	100	30-60	30-60	30-60	30-60	240-480	30-60	30-60	30-60	> 480
sgl	1330-78-5	TCP	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	110-01-0	Thiolan	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	108-88-3	Toluol	100	< 10	< 10	< 10	< 10	6	< 10	< 10	< 10	< 10
sgl	76-03-9	Trichloroacetic acid	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	79-01-6	Trichloroethylene	100	< 10	< 10	< 10	< 10	3	< 10	< 10	< 10	< 10
sgl	108-05-4	Vinyl acetate	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
sgl	2177-18-6	Vinyl acrylate	100									
sgl	7732-18-5	Water	100	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480	> 480
sgl	92062-35-6	White mineral oil (petroleum), light	100	240-480	240-480	240-480	240-480	> 480	10-30	10-30	10-30	10-30
sgl	64742-88-7	White spirit	100	10-30	120-240	10-30	240-480	240-480	< 10	< 10	< 10	10-30
sgl	1330-20-7	Xylene, isomeric mixture	100	< 10	< 10	< 10	< 10	11	< 10	< 10	< 10	< 10
sgl	7699-45-8	Zinc Bromide, aqueous solutions	99									