



C3526T TN

# DuPont™ Tychem® 5000

DuPont™ Tychem® 5000 Encapsulated Level B Suit. Flat Back, Rear Entry. Standard Visor, 1 Layer: 20 mil PVC. Elastic Wrists. Attached Socks with Outer Boot Flaps. Double Storm Flap with Hook & Loop Closure. Airline Access. One Exhaust Vent. Taped Seams. Tan.

Name	Description
Full Part Number	C3526TTNxx0006yy (xx=size;yy=option code)
Fabric or Materials	Tychem® 5000
Design	Encap. Level B, Flat Back, Rear Entry
Seam	Taped
Color	Tan
Quantity/Box	6 per case
Sizes	SM, MD, LG, XL, 2X, 3X, 4X
Option Codes	00

## FEATURES & PRODUCT DETAILS

Tychem® 5000 fabric is composed of a multi-layer film barrier laminated to a durable 2.0 oz/yd<sup>2</sup> polypropylene substrate. Tychem® 5000 fabric is strong and durable for rigorous activities and rugged situations involving liquid splash and provides barrier to a broad range of chemicals. Typical Applications: chemical handling, petro-chemical, hazardous materials/waste clean-up, fire departments, industrial hazmat teams, utilities, and domestic preparedness. Commonly used in domestic preparedness for situations where the potential to exposure to chemicals exist.

- Encapsulated design provides protection from liquid splash exposure for both the wearer and respiratory equipment
- Also provides coverage from overhead liquid splash (does not provide vapor protection)
- Taped seams provide strong chemical resistance against heavy liquid splashes. A sewn seam is covered with a strip of compatible chemical-resistant material through heat sealing.
- Standard 20 mil PVC faceshield
- Rear entry design keeps closure away from direct contact with frontal chemical exposure
- Flat back design for use with airline
- Storm flap covers zipper which can be secured by the wearer with rugged hook and loop material to prevent intrusion at zipper
- Elastic opening for tighter fit at wrist
- Integrated socks composed of garment material
- Attached flaps are designed to cover boot tops to help reduce potential for liquid intrusion
- Meets the U.S. industry requirements for blood (ASTM F1670) and viral penetration (ASTM F1671) protecting against several bloodborne pathogen exposure risks.

## AVAILABLE OPTIONS

Option Code	Description	Sizes	Part Number
00	Standard	SM,MD,LG,XL,2X,3X,4X	C3526TTNxx000600

## FINISHED DIMENSIONS

Size	Sleeve Length	Chest Width	Inseam	Fits Chest	Fits Height	Boot Length	Boot Height	Mens Shoe	Womens Shoe	Inner Glove Size	C C S
SM	25	29 1/4	28 1/2	45 1/4 - 48 3/4	5'0" - 5'9"	13 3/4	n/a	n/a	n/a	n/a	n
MD	25 3/4	30 3/4	29 1/2	48 1/4 - 51 3/4	5'0" - 5'9"	13 3/4	n/a	n/a	n/a	n/a	n
LG	26 1/2	32 1/4	30 1/2	51 1/4 - 54 3/4	5'9" - 6'3"	13 3/4	n/a	n/a	n/a	n/a	n
XL	27 1/4	33 3/4	31 1/2	54 1/4 - 57 3/4	5'9" - 6'3"	13 3/4	n/a	n/a	n/a	n/a	n
2X	27 3/4	35 1/4	32 3/4	57 1/4 - 60 3/4	6'3" - 6'5"	13 3/4	n/a	n/a	n/a	n/a	n
3X	28 1/2	36 3/4	33 1/2	60 1/4 - 63 3/4	6'3" - 6'5"	13 3/4	n/a	n/a	n/a	n/a	n
4X	29 1/4	38 1/4	34 3/4	63 1/4 - 66 3/4	6'5" - 6'7"	13 3/4	n/a	n/a	n/a	n/a	n


## **ADDITIONAL EQUIPMENT NEEDED**

- Please read, understand and follow the Tychem® User Manual.
- Suffocation hazard exists. An appropriate open-circuit self-contained breathing apparatus (SCBA) or air-line supplied respirator must be worn with all encapsulating garments.
- Wear other appropriate PPE such as, but not limited to, respiratory, eye, head, hand, and foot protection based on the hazard assessment.
- Wear separate appropriate outer footwear over the garment sock. This garment has attached socks made of garment material. These socks are not suitable to used as outer footwear. They do not have adequate durability or slip resistance to be worn as the outer foot covering. (15)

## Physical Properties



Data relating to mechanical performance of the fabrics used in DuPont chemical protective clothing, listed for the selected garment according to the test methods and relevant European standard, if applicable. Such properties, including abrasion and flex-cracking resistance, tensile strength and puncture resistance can help in the assessment of protective performance.

Property	Test Method	Typical Result
Thickness	ASTM D1777	18 mils
Basis Weight	ASTM D3776	4.4 oz/yd <sup>2</sup>
Tear Resistance - Trap Tear (MD)	ASTM D5587	23 lb <sub>f</sub>
Tear Resistance - Trap Tear (CD)	ASTM D5587	29 lb <sub>f</sub>
Breaking Strength - Grab (MD)	ASTM D5034	68 lb <sub>f</sub>
Breaking Strength - Grab (CD)	ASTM D5034	60 lb <sub>f</sub>
Wearing Apparel Flammability	16 CFR 1610 <a class="helpImg" data-toggle="fabPhyProp" href="#">  </a>	Class 1

## CHEMICAL RESISTANCE

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Acetaldehyde	75-07-0	Liquid	19
Acetaldehyde	75-07-0	Liquid	19
Acetic acid (>95%)	64-19-7	Liquid	84
Acetic acid 2 ethoxy ethyl ester	111-15-9	Liquid	>480
Acetic acid 2 ethoxy ethyl ester	111-15-9	Liquid	>480
Acetic acid 2 methoxy ethyl ester	110-49-6	Liquid	>480
Acetic acid 2 methoxy ethyl ester	110-49-6	Liquid	>480
Acetic acid ethenyl ester	108-05-4	Liquid	>480
Acetic acid ethenyl ester	108-05-4	Liquid	>480
Acetic acid ethyl ester	141-78-6	Liquid	>480
Acetic acid ethyl ester	141-78-6	Liquid	>480
Acetic acid pentyl ester	628-63-7	Liquid	>480
Acetic acid pentyl ester	628-63-7	Liquid	>480
Acetic anhydride	108-24-7	Liquid	>480
Acetic anhydride	108-24-7	Liquid	>480
Acetic chloride	75-36-5	Liquid	>480
Acetic chloride	75-36-5	Liquid	>480
Acetone	67-64-1	Liquid	462
Acetone	67-64-1	Liquid	462
Acetonitrile	75-05-8	Liquid	imm
Acetonitrile	75-05-8	Liquid	imm
Acetyl chloride	75-36-5	Liquid	>480
Acetyl chloride	75-36-5	Liquid	>480
Acrolein	107-02-8	Liquid	25*/178
Acrolein	107-02-8	Liquid	25*/178
Acrylonitrile	107-13-1	Liquid	31
Acrylonitrile	107-13-1	Liquid	31
Acryloyl Chloride	814-68-6	Liquid	55
Acryloyl Chloride	814-68-6	Liquid	55
Adipic acid dinitrile	111-69-3	Liquid	>480



Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Adipic acid dinitrile	111-69-3	Liquid	>480
Adipic acid nitrile	111-69-3	Liquid	>480
Adipic acid nitrile	111-69-3	Liquid	>480
Adiponitrile	111-69-3	Liquid	>480
Adiponitrile	111-69-3	Liquid	>480
Adipyl dinitrile	111-69-3	Liquid	>480
Allyl alcohol	107-18-6	Liquid	>480
Allyl alcohol	107-18-6	Liquid	>480
Allyl chloride	107-05-1	Liquid	12
Allyl chloride	107-05-1	Liquid	12
Amino benzene	62-53-3	Liquid	320
Amino benzene	62-53-3	Liquid	320
Amino ethanol, 2-	141-43-5	Liquid	>480
Amino ethanol, 2-	141-43-5	Liquid	>480
Amino ethylethanolamine	111-41-1	Liquid	>480
Amino ethylethanolamine	111-41-1	Liquid	>480
Amino ethylethanolamine (60%)	111-41-1	Liquid	>480
Amino ethylpiperazine	140-31-8	Liquid	>480
Amino ethylpiperazine	140-31-8	Liquid	>480
Amino propane, 2-	75-31-0	Liquid	15
Amino propane, 2-	75-31-0	Liquid	15
Ammonia (-70 °C, liquid)	7664-41-7	Liquid	>480
Ammonia (gaseous)	7664-41-7	Vapor	imm
Ammonium chloride (sat)	12125-02-9	Liquid	>480
Ammonium hydroxide (28% - 30%)	1336-21-6	Liquid	89
Amyl acetate, n-	628-63-7	Liquid	>480
Amyl acetate, n-	628-63-7	Liquid	>480
Amyl alcohol	71-41-0	Liquid	>480
Amyl alcohol	71-41-0	Liquid	>480
Amyl ester acetic acid	628-63-7	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Amyl ester acetic acid	628-63-7	Liquid	>480
Aniline	62-53-3	Liquid	320
Aniline	62-53-3	Liquid	320
Anthracene (sat in Toluene)	120-12-7	Liquid	>480
Anthracin (sat in Toluene)	120-12-7	Liquid	>480
Azolidine	123-75-1	Liquid	342
Azolidine	123-75-1	Liquid	342
Benzenamine	62-53-3	Liquid	320
Benzenamine	62-53-3	Liquid	320
Benzene	71-43-2	Liquid	>480
Benzene	71-43-2	Liquid	>480
Benzene carbonyl chloride	98-88-4	Liquid	>480
Benzene carbonyl chloride	98-88-4	Liquid	>480
Benzene sulfone chloride	98-09-9	Liquid	>480
Benzene sulfone chloride	98-09-9	Liquid	>480
Benzene sulfonyl chloride	98-09-9	Liquid	>480
Benzene sulfonyl chloride	98-09-9	Liquid	>480
Benzo nitrile	100-47-0	Liquid	450
Benzo nitrile	100-47-0	Liquid	450
Benzo trichloride	98-07-7	Liquid	>480
Benzo trichloride	98-07-7	Liquid	>480
Benzoyl chloride	98-88-4	Liquid	>480
Benzoyl chloride	98-88-4	Liquid	>480
Benzyl chloride	100-44-7	Liquid	>480
Benzyl chloride	100-44-7	Liquid	>480
Benzyl chloro formate	501-53-1	Liquid	>480
Benzyl chloro formate	501-53-1	Liquid	>480
Benzyl cyanide	140-29-4	Liquid	>480
Benzyl cyanide	140-29-4	Liquid	>480
Black Liquor (mix)	mix	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Boron trifluoride dimethyl etherate	353-42-4	Liquid	>480
Boron trifluoride dimethyl etherate	353-42-4	Liquid	>480
Bromine	7726-95-6	Liquid	imm
Bromine	7726-95-6	Liquid	imm
Bromo 4-fluorobenzene, 1-	460-00-4	Liquid	>480
Bromo 4-fluorobenzene, 1-	460-00-4	Liquid	>480
Bromo fluorobenzene, 4-	460-00-4	Liquid	>480
Bromo fluorobenzene, 4-	460-00-4	Liquid	>480
Butadiene, 1,3- (gaseous)	106-99-0	Vapor	>480
Butanol, 1-	71-36-3	Liquid	>480
Butanol, 1-	71-36-3	Liquid	>480
Butanol, n-	71-36-3	Liquid	>480
Butanol, n-	71-36-3	Liquid	>480
Butanone	78-93-3	Liquid	>480
Butanone	78-93-3	Liquid	>480
Butyl acetate, n-	123-86-4	Liquid	>480
Butyl acetate, n-	123-86-4	Liquid	>480
Butyl alcohol, n-	71-36-3	Liquid	>480
Butyl alcohol, n-	71-36-3	Liquid	>480
Butyl amine	109-73-9	Liquid	>480
Butyl amine	109-73-9	Liquid	>480
Butyl ether, n-	142-96-1	Liquid	117
Butyl ether, n-	142-96-1	Liquid	117
Carbon disulfide	75-15-0	Liquid	imm
Carbon disulfide	75-15-0	Liquid	imm
Carbon tetrachloride	56-23-5	Liquid	>480
Carbon tetrachloride	56-23-5	Liquid	>480
Caustic ammonia (28% - 30%)	1336-21-6	Liquid	89
Caustic soda (50%)	1310-73-2	Liquid	>480
Cellosolve acetate	110-80-5	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Cellosolve acetate	110-80-5	Liquid	>480
Chlor allylene	107-05-1	Liquid	12
Chlor allylene	107-05-1	Liquid	12
Chlordane (44%)	57-74-9	Liquid	>480
Chlorine (-70 °C, liquid)	7782-50-5	Liquid	>480
Chlorine (gaseous)	7782-50-5	Vapor	imm
Chlorine sulfide (80%)	10545-99-0	Liquid	imm
Chloro 1-methylbenzene, 2-	95-49-8	Liquid	>480
Chloro 1-methylbenzene, 2-	95-49-8	Liquid	>480
Chloro 2,3-epoxy propane, 1-	106-89-8	Liquid	36*/67
Chloro 2,3-epoxy propane, 1-	106-89-8	Liquid	36*/67
Chloro acetic acid (80%)	79-11-8	Liquid	>480
Chloro acetone (95%)	78-95-5	Liquid	>480
Chloro acetyl chloride	79-04-9	Liquid	77
Chloro acetyl chloride	79-04-9	Liquid	77
Chloro acrylonitrile, 2-	920-37-6	Liquid	146
Chloro acrylonitrile, 2-	920-37-6	Liquid	146
Chloro benzene	108-90-7	Liquid	63
Chloro benzene	108-90-7	Liquid	63
Chloro benzotrichloride, 4-	5216-25-1	Liquid	>480
Chloro benzotrichloride, 4-	5216-25-1	Liquid	>480
Chloro benzotrifluoride, 4-	98-56-6	Liquid	460
Chloro benzotrifluoride, 4-	98-56-6	Liquid	460
Chloro ethanol, 2-	107-07-3	Liquid	>480
Chloro ethanol, 2-	107-07-3	Liquid	>480
Chloro ethene	75-01-4	Vapor	>480
Chloro ethene	75-01-4	Vapor	>480
Chloro form	67-66-3	Liquid	imm
Chloro form	67-66-3	Liquid	imm
Chloro prene, 3-	107-05-1	Liquid	12

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Chloro prene, 3-	107-05-1	Liquid	12
Chloro propan-2-one, 1- (95%)	78-95-5	Liquid	>480
Chloro toluene, alpha-	100-44-7	Liquid	>480
Chloro toluene, alpha-	100-44-7	Liquid	>480
Chloro toluene, o-	95-49-8	Liquid	>480
Chloro toluene, o-	95-49-8	Liquid	>480
Chlorsulfonic acid	7790-94-5	Liquid	330
Chlorsulfonic acid	7790-94-5	Liquid	330
Citric acid (50%)	77-92-9	Liquid	>480
Cresol o-	95-48-7	Liquid	198
Cresol o-	95-48-7	Liquid	198
Cumene	98-82-8	Liquid	364
Cumene	98-82-8	Liquid	364
Cyanobenzene	100-47-0	Liquid	450
Cyanobenzene	100-47-0	Liquid	450
Cyanoethylene	107-13-1	Liquid	31
Cyanoethylene	107-13-1	Liquid	31
Cyanomethane	75-05-8	Liquid	imm
Cyanomethane	75-05-8	Liquid	imm
Cyclo hexane	110-82-7	Liquid	>480
Cyclo hexane	110-82-7	Liquid	>480
Cyclo octadiene	1552-12-1	Liquid	>480
Cyclo octadiene	1552-12-1	Liquid	>480
DEHP	117-81-7	Liquid	>480
Diaminoethane, 1,2-	107-15-3	Liquid	>480
Diaminoethane, 1,2-	107-15-3	Liquid	>480
Dibromo -3-chloropropane, 1,2-	96-12-8	Liquid	>480
Dibromo -3-chloropropane, 1,2-	96-12-8	Liquid	>480
Dibromoethane, 1,2-	106-93-4	Liquid	>480
Dibromoethane, 1,2-	106-93-4	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Dichlorbenzen, 1,2-	95-50-1	Liquid	>480
Dichlorbenzen, 1,2-	95-50-1	Liquid	>480
Dichlorbenzen, 1,3-	541-73-1	Liquid	>480
Dichlorbenzen, 1,3-	541-73-1	Liquid	>480
Dichlorbenzen, 1,4- (50% in Ethanol)	106-46-7	Liquid	131
Dichlorethane, 1,2.-	107-06-2	Liquid	>480
Dichlorethane, 1,2.-	107-06-2	Liquid	>480
Dichloro ethyl ether	111-44-4	Liquid	>480
Dichloro ethyl ether	111-44-4	Liquid	>480
Dichloro ethylene, 1,1-	75-35-4	Liquid	170
Dichloro ethylene, 1,1-	75-35-4	Liquid	170
Dichloro methane	75-09-2	Liquid	imm
Dichloro methane	75-09-2	Liquid	imm
Dichloro propene, 1,3- (95%)	542-75-6	Liquid	imm
Dichloro propene, 2,3-	78-88-6	Liquid	280
Dichloro propene, 2,3-	78-88-6	Liquid	280
Dicyanobutane, 1,4-	111-69-3	Liquid	>480
Dicyanobutane, 1,4-	111-69-3	Liquid	>480
Diesel fuel	68334-30-5	Liquid	199
Diesel fuel	68334-30-5	Liquid	199
Diethanolamine	111-42-2	Liquid	>480
Diethanolamine	111-42-2	Liquid	>480
Diethyl amine	109-89-7	Liquid	>480
Diethyl amine	109-89-7	Liquid	>480
Diethyl aniline, N,N-	91-66-7	Liquid	>480
Diethyl aniline, N,N-	91-66-7	Liquid	>480
Diethyl ether	60-29-7	Liquid	>480
Diethyl ether	60-29-7	Liquid	>480
Diethyl hexyl phthalate	117-81-7	Liquid	>480
Diethyl hexyl phthalate	117-81-7	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Diethyl sulfate	64-67-5	Liquid	>480
Diethyl sulfate	64-67-5	Liquid	>480
Diethylene triamine	111-40-0	Liquid	>480
Diethylene triamine	111-40-0	Liquid	>480
Diisopropylethylamine (DIPEA)	7087-68-5	Liquid	>480
Diisopropylethylamine (DIPEA)	7087-68-5	Liquid	>480
Dimethyl acetamide, N,N-	127-19-5	Liquid	>480
Dimethyl acetamide, N,N-	127-19-5	Liquid	>480
Dimethyl amine	124-40-3	Vapor	>480
Dimethyl amine	124-40-3	Vapor	>480
Dimethyl aniline, N,N-	121-69-7	Liquid	imm
Dimethyl aniline, N,N-	121-69-7	Liquid	imm
Dimethyl formamide, N,N-	68-12-2	Liquid	>480
Dimethyl formamide, N,N-	68-12-2	Liquid	>480
Dimethyl ketal	67-64-1	Liquid	462
Dimethyl ketal	67-64-1	Liquid	462
Dimethyl ketone	67-64-1	Liquid	462
Dimethyl ketone	67-64-1	Liquid	462
Dimethyl maleate	624-48-6	Liquid	>480
Dimethyl maleate	624-48-6	Liquid	>480
Dimethyl phenylamine, N,N-	121-69-7	Liquid	imm
Dimethyl phenylamine, N,N-	121-69-7	Liquid	imm
Dimethyl sulfate	77-78-1	Liquid	>480
Dimethyl sulfate	77-78-1	Liquid	>480
Dimethyl sulfoxide	67-68-5	Liquid	>480
Dimethyl sulfoxide	67-68-5	Liquid	>480
Dioxane, 1,4-	123-91-1	Liquid	>480
Dioxane, 1,4-	123-91-1	Liquid	>480
Diphenyl methane diisocyanate, 4,4'- (50 °C, molten)	101-68-8	Liquid	>480
Disodium sulfide (60% (slurry))	1313-82-2	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through
Dytek® A	15520-10-2	Liquid	>480
Dytek® A	15520-10-2	Liquid	>480
Epichlorohydrin	106-89-8	Liquid	36*/67
Epichlorohydrin	106-89-8	Liquid	36*/67
Epoxy ethane (11 °C, liquid)	75-21-8	Liquid	18
Epoxy ethane (gaseous)	75-21-8	Vapor	>480
Epoxy propane, 1,2-	75-56-9	Liquid	47
Epoxy propane, 1,2-	75-56-9	Liquid	47
Ethane dioic acid (sat)	144-62-7	Liquid	>480
Ethane nitrile	75-05-8	Liquid	imm
Ethane nitrile	75-05-8	Liquid	imm
Ethane thiol	75-08-1	Liquid	>480
Ethane thiol	75-08-1	Liquid	>480
Ethanol	64-17-5	Liquid	>480
Ethanol	64-17-5	Liquid	>480
Ethanol amine	141-43-5	Liquid	>480
Ethanol amine	141-43-5	Liquid	>480
Ethanoyl chloride	75-36-5	Liquid	>480
Ethanoyl chloride	75-36-5	Liquid	>480
Ethoxy ethanol, 2-	110-80-5	Liquid	>480
Ethoxy ethanol, 2-	110-80-5	Liquid	>480
Ethoxy ethylacetat	111-15-9	Liquid	>480
Ethoxy ethylacetat	111-15-9	Liquid	>480
Ethyl Cellosolve®	110-80-5	Liquid	>480
Ethyl Cellosolve®	110-80-5	Liquid	>480
Ethyl acetate	141-78-6	Liquid	>480
Ethyl acetate	141-78-6	Liquid	>480
Ethyl alcohol	64-17-5	Liquid	>480
Ethyl alcohol	64-17-5	Liquid	>480
Ethyl benzene	100-41-4	Liquid	>480



Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Ethyl benzene	100-41-4	Liquid	>480
Ethyl ethanamine, N-	109-89-7	Liquid	>480
Ethyl ethanamine, N-	109-89-7	Liquid	>480
Ethyl ether	60-29-7	Liquid	>480
Ethyl ether	60-29-7	Liquid	>480
Ethyl glycol acetate	111-15-9	Liquid	>480
Ethyl glycol acetate	111-15-9	Liquid	>480
Ethyl mercaptan	75-08-1	Liquid	>480
Ethyl mercaptan	75-08-1	Liquid	>480
Ethyl nitrile	75-05-8	Liquid	imm
Ethyl nitrile	75-05-8	Liquid	imm
Ethylene chlorohydrin	107-07-3	Liquid	>480
Ethylene chlorohydrin	107-07-3	Liquid	>480
Ethylene diamine	107-15-3	Liquid	>480
Ethylene diamine	107-15-3	Liquid	>480
Ethylene dibromide	106-93-4	Liquid	>480
Ethylene dibromide	106-93-4	Liquid	>480
Ethylene dichloride	107-06-2	Liquid	>480
Ethylene dichloride	107-06-2	Liquid	>480
Ethylene glycol acrylate	818-61-1	Liquid	>480
Ethylene glycol acrylate	818-61-1	Liquid	>480
Ethylene glycol mono ethyl ether acetate	111-15-9	Liquid	>480
Ethylene glycol mono ethyl ether acetate	111-15-9	Liquid	>480
Ethylene glycol monoethyl ether	110-80-5	Liquid	>480
Ethylene glycol monoethyl ether	110-80-5	Liquid	>480
Ethylene glycol monomethyl ether	109-86-4	Liquid	405
Ethylene glycol monomethyl ether	109-86-4	Liquid	405
Ethylene glycol monomethyl ether acetate	110-49-6	Liquid	>480
Ethylene glycol monomethyl ether acetate	110-49-6	Liquid	>480
Ethylene oxide (11 °C, liquid)	75-21-8	Liquid	18

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Ethylene oxide (gaseous)	75-21-8	Vapor	>480
Ethylene tetrachloride	127-18-4	Liquid	>480
Ethylene tetrachloride	127-18-4	Liquid	>480
Ethylene trichloride	79-01-6	Liquid	>480
Ethylene trichloride	79-01-6	Liquid	>480
Fluorobenzene	462-06-6	Liquid	>480
Fluorobenzene	462-06-6	Liquid	>480
Fluorosilicic acid (33-35%)	16961-83-4	Liquid	>480
Formaldehyde (37%)	50-00-0	Liquid	>480
Formalin (37% (10-15% Methanol))	50-00-0	Liquid	>480
Formalin (37%)	50-00-0	Liquid	>480
Formic acid (>95%)	64-18-6	Liquid	>480
Furaldehyde, 2-	98-01-1	Liquid	>480
Furaldehyde, 2-	98-01-1	Liquid	>480
Furfural	98-01-1	Liquid	>480
Furfural	98-01-1	Liquid	>480
Gasoline, unleaded	86290-81-5	Liquid	>480
Gasoline, unleaded	86290-81-5	Liquid	>480
Glycol chlorohydrin	107-07-3	Liquid	>480
Glycol chlorohydrin	107-07-3	Liquid	>480
Green Liquor (mix)	mix	Liquid	>480
Heptane	142-82-5	Liquid	>480
Heptane	142-82-5	Liquid	>480
Hexamethylene diamine (50 °C, molten)	124-09-4	Liquid	45
Hexamethylene diisocyanate	822-06-0	Liquid	>480
Hexamethylene diisocyanate	822-06-0	Liquid	>480
Hexane, n-	110-54-3	Liquid	>480
Hexane, n-	110-54-3	Liquid	>480
Hexone	108-10-1	Liquid	>480
Hexone	108-10-1	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through
Hydriodic acid (55-57%)	10034-85-2	Liquid	>480
Hydrobromic acid (48%)	10035-10-6	Liquid	>480
Hydrochloric acid (37%)	7647-01-0	Liquid	>480
Hydrofluoric acid (48-51%)	7664-39-3	Liquid	>480
Hydrofluoric acid (70%)	7664-39-3	Liquid	126
Hydrogen chloride (gaseous)	7647-01-0	Vapor	>480
Hydrogen cyanide (27 °C, gaseous)	74-90-8	Vapor	30
Hydrogen fluoride (20-27 °C, gaseous)	7664-39-3	Vapor	186
Hydrogen peroxide (50%)	7722-84-1	Liquid	>480
Hydrogen sulfide	7783-06-4	Vapor	imm
Hydrogen sulfide	7783-06-4	Vapor	imm
Hydroxy 1,2,3-propanetricarboxylic acid, 2- (50%)	77-92-9	Liquid	>480
Hydroxy propene	107-18-6	Liquid	>480
Hydroxy toluene, o-	95-48-7	Liquid	198
Hydroxy toluene, o-	95-48-7	Liquid	198
Hypophosphorus acid (50%)	6303-21-5	Liquid	>480
Isobutyl methyl ketone	108-10-1	Liquid	>480
Isobutyl methyl ketone	108-10-1	Liquid	>480
Isopropanol	67-63-0	Liquid	>480
Isopropanol	67-63-0	Liquid	>480
Isopropyl alcohol	67-63-0	Liquid	>480
Isopropyl alcohol	67-63-0	Liquid	>480
Isopropyl amine	75-31-0	Liquid	15
Isopropyl amine	75-31-0	Liquid	15
Isopropyl benzene	98-82-8	Liquid	364
Isopropyl benzene	98-82-8	Liquid	364
JP-8 Jet Fuel	94114-58-6	Liquid	>480
JP-8 Jet Fuel	94114-58-6	Liquid	>480
Kerosene	8008-20-6	Liquid	>480
Kerosene	8008-20-6	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through
Ketone propane	67-64-1	Liquid	462
Ketone propane	67-64-1	Liquid	462
Lewisite (L), MIL-STD-282 (10 g/m <sup>2</sup> )	541-25-3	Liquid	120 <sup>8</sup>
Limonene d-	5989-27-5	Liquid	>480
Limonene d-	5989-27-5	Liquid	>480
MEK	78-93-3	Liquid	>480
Mercapto acetic acid	68-11-1	Liquid	>480
Mercapto acetic acid	68-11-1	Liquid	>480
Mercury	7439-97-6	Liquid	>480
Mercury	7439-97-6	Liquid	>480
Methacrylic acid	79-41-4	Liquid	81
Methacrylic acid	79-41-4	Liquid	81
Methanethiol	74-93-1	Vapor	>480
Methanethiol	74-93-1	Vapor	>480
Methanol	67-56-1	Liquid	imm
Methanol	67-56-1	Liquid	imm
Methoxy 2-methylpropane, 2-	1634-04-4	Liquid	>480
Methoxy 2-methylpropane, 2-	1634-04-4	Liquid	>480
Methoxy ethanol, 2	109-86-4	Liquid	405
Methoxy ethanol, 2	109-86-4	Liquid	405
Methoxy ethylacetate, 2-	110-49-6	Liquid	>480
Methoxy ethylacetate, 2-	110-49-6	Liquid	>480
Methyl 4-isopropenyl-1-cyclohexene, 1-	5989-27-5	Liquid	>480
Methyl 4-isopropenyl-1-cyclohexene, 1-	5989-27-5	Liquid	>480
Methyl acetyl	67-64-1	Liquid	462
Methyl acetyl	67-64-1	Liquid	462
Methyl amine (40%)	74-89-5	Liquid	140
Methyl benzol	108-88-3	Liquid	>480
Methyl benzol	108-88-3	Liquid	>480
Methyl chloride (gaseous)	74-87-3	Vapor	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through
Methyl chloroform	71-55-6	Liquid	>480
Methyl chloroform	71-55-6	Liquid	>480
Methyl cyanide	75-05-8	Liquid	imm
Methyl cyanide	75-05-8	Liquid	imm
Methyl ethyl ketone	78-93-3	Liquid	>480
Methyl ethyl ketone	78-93-3	Liquid	>480
Methyl formamide, N-	123-39-7	Liquid	>480
Methyl formamide, N-	123-39-7	Liquid	>480
Methyl isocyanate	624-83-9	Liquid	12
Methyl isocyanate	624-83-9	Liquid	12
Methyl ketone	67-64-1	Liquid	462
Methyl ketone	67-64-1	Liquid	462
Methyl mercaptan	74-93-1	Vapor	>480
Methyl mercaptan	74-93-1	Vapor	>480
Methyl pentan-2-one, 4-	108-10-1	Liquid	>480
Methyl pentan-2-one, 4-	108-10-1	Liquid	>480
Methyl propenoic acid, 2-	79-41-4	Liquid	81
Methyl propenoic acid, 2-	79-41-4	Liquid	81
Methyl pyridine, 2-	109-06-8	Liquid	>480
Methyl pyridine, 2-	109-06-8	Liquid	>480
Methyl pyridine, 3-	108-99-6	Liquid	>480
Methyl pyridine, 3-	108-99-6	Liquid	>480
Methyl tert-butyl ether	1634-04-4	Liquid	>480
Methyl tert-butyl ether	1634-04-4	Liquid	>480
Methyl trichloromethane	71-55-6	Liquid	>480
Methyl trichloromethane	71-55-6	Liquid	>480
Methyl trichlorosilane	75-79-6	Liquid	>480
Methyl trichlorosilane	75-79-6	Liquid	>480
Methylene bromide	74-95-3	Liquid	40
Methylene bromide	74-95-3	Liquid	40

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through
Methylene chloride	75-09-2	Liquid	imm
Methylene chloride	75-09-2	Liquid	imm
Methylene diphenyl diisocyanate, 4,4'- (50 °C, molten)	101-68-8	Liquid	>480
N-Methylmorpholine (NMM)	109-02-4	Liquid	>480
N-Methylmorpholine (NMM)	109-02-4	Liquid	>480
Naphthalene	91-20-3	Solid	>480
Naphthalene	91-20-3	Solid	>480
Naphthalene (25% in Diethylene glycol dimethylether)	91-20-3	Liquid	>480
Nicotine	54-11-5	Liquid	>480
Nicotine	54-11-5	Liquid	>480
Nitric acid (90%)	7697-37-2	Liquid	>480
Nitro benzene	98-95-3	Liquid	>480
Nitro benzene	98-95-3	Liquid	>480
Nitro methane	75-52-5	Liquid	>480
Nitro methane	75-52-5	Liquid	>480
Nitro propane, 2-	79-46-9	Liquid	>480
Nitro propane, 2-	79-46-9	Liquid	>480
Norflurane	811-97-2	Vapor	>480
Norflurane	811-97-2	Vapor	>480
Oleum (65% free SO3)	8014-95-7	Liquid	15
Oxalic acid (sat)	144-62-7	Liquid	>480
PCB in transformer oil (mix)	mix	Liquid	>480
Pentanol, 1-	71-41-0	Liquid	>480
Pentanol, 1-	71-41-0	Liquid	>480
Pentyl acetate	628-63-7	Liquid	>480
Pentyl acetate	628-63-7	Liquid	>480
Phenethyl alcohol, 2-	60-12-8	Liquid	>480
Phenethyl alcohol, 2-	60-12-8	Liquid	>480
Phenethylene	100-42-5	Liquid	>480
Phenethylene	100-42-5	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Phenol (45 °C, molten)	108-95-2	Liquid	17
Phenol (60 °C, molten)	108-95-2	Liquid	imm
Phenol (85%)	108-95-2	Liquid	341
Phenyl acetonitrile	140-29-4	Liquid	>480
Phenyl acetonitrile	140-29-4	Liquid	>480
Phenyl amine	62-53-3	Liquid	320
Phenyl amine	62-53-3	Liquid	320
Phenyl chloride	108-90-7	Liquid	63
Phenyl chloride	108-90-7	Liquid	63
Phenyl cyanide	100-47-0	Liquid	450
Phenyl cyanide	100-47-0	Liquid	450
Phenyl ethane	100-41-4	Liquid	>480
Phenyl ethane	100-41-4	Liquid	>480
Phenyl ethanol, 1-	98-85-1	Liquid	>480
Phenyl ethanol, 1-	98-85-1	Liquid	>480
Phenyl propane, 2-	98-82-8	Liquid	364
Phenyl propane, 2-	98-82-8	Liquid	364
Phosgene	75-44-5	Vapor	>480
Phosgene	75-44-5	Vapor	>480
Phosphinic acid (50%)	6303-21-5	Liquid	>480
Phosphoric acid (85%)	7664-38-2	Liquid	>480
Phosphorus oxychloride	10025-87-3	Liquid	410
Phosphorus oxychloride	10025-87-3	Liquid	410
Phosphorus trichloride	7719-12-2	Liquid	>480
Phosphorus trichloride	7719-12-2	Liquid	>480
Picoline, 2-	109-06-8	Liquid	>480
Picoline, 2-	109-06-8	Liquid	>480
Picoline, 3-	108-99-6	Liquid	>480
Picoline, 3-	108-99-6	Liquid	>480
Polymethylene polyphenyle isocyanate (p-MDI)	9016-87-9	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Polymethylene polyphenyle isocyanate (p-MDI)	9016-87-9	Liquid	>480
Potassium carbonate (sat)	584-08-7	Liquid	>480
Potassium hydroxide (45%)	1310-58-3	Liquid	>480
Prop-2-en-1-al	107-02-8	Liquid	25*/178
Prop-2-en-1-al	107-02-8	Liquid	25*/178
Propan -2-ol	67-63-0	Liquid	>480
Propan -2-ol	67-63-0	Liquid	>480
Propan -2-one	67-64-1	Liquid	462
Propan -2-one	67-64-1	Liquid	462
Propen 1-ol, 2-	107-18-6	Liquid	>480
Propen 1-ol, 2-	107-18-6	Liquid	>480
Propenenitrile, 2-	107-13-1	Liquid	31
Propenenitrile, 2-	107-13-1	Liquid	31
Propenoic acid nitrile	107-13-1	Liquid	31
Propenoic acid nitrile	107-13-1	Liquid	31
Propyl amine, n-	107-10-8	Liquid	100
Propyl amine, n-	107-10-8	Liquid	100
Propyl bromide, n-	106-94-5	Liquid	>480
Propyl bromide, n-	106-94-5	Liquid	>480
Propylene oxide, 1,2-	75-56-9	Liquid	47
Propylene oxide, 1,2-	75-56-9	Liquid	47
Pyridine	110-86-1	Liquid	>480
Pyridine	110-86-1	Liquid	>480
Pyroacetic ether	67-64-1	Liquid	462
Pyroacetic ether	67-64-1	Liquid	462
Pyrrolidine	123-75-1	Liquid	342
Pyrrolidine	123-75-1	Liquid	342
Sarin (GB), MIL-STD-282 (10 g/m <sup>2</sup> )	107-44-8	Liquid	120 <sup>8</sup>
Silicon tetrachloride	10026-04-7	Liquid	>480
Silicon tetrachloride	10026-04-7	Liquid	>480



Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Sodium cyanide (45%)	143-33-9	Liquid	>480
Sodium hydroxide (50%)	1310-73-2	Liquid	>480
Sodium hypochlorite (15%)	7681-52-9	Liquid	>480
Sodium metabisulphite (38%)	7681-57-4	Liquid	23
Soman (GD), MIL-STD-282 (10 g/m <sup>2</sup> )	96-64-0	Liquid	>480 <sup>8</sup>
Spiritus	64-17-5	Liquid	>480
Spiritus	64-17-5	Liquid	>480
Styrene	100-42-5	Liquid	>480
Styrene	100-42-5	Liquid	>480
Sulfur Mustard (HD), MIL-STD-282 (10 g/m <sup>2</sup> )	505-60-2	Liquid	120 <sup>8</sup>
Sulfur trioxide	7446-11-9	Liquid	imm
Sulfur trioxide	7446-11-9	Liquid	imm
Sulfuric acid (>95%)	7664-93-9	Liquid	>480
Sulfuric acid diethyl ester	64-67-5	Liquid	>480
Sulfuric acid diethyl ester	64-67-5	Liquid	>480
Sulfuric acid dimethyl ester	77-78-1	Liquid	>480
Sulfuric acid dimethyl ester	77-78-1	Liquid	>480
Sulfuric acid fuming (65% free SO <sub>3</sub> )	8014-95-7	Liquid	15
Sulfuryl chloride	7791-25-5	Liquid	120
Sulfuryl chloride	7791-25-5	Liquid	120
Sulphur dichloride (80%)	10545-99-0	Liquid	imm
Tetrachloro ethane, 1,1,2,2,-	79-34-5	Liquid	>480
Tetrachloro ethane, 1,1,2,2,-	79-34-5	Liquid	>480
Tetrachloro ethylene, 1,1,2,2,-	127-18-4	Liquid	>480
Tetrachloro ethylene, 1,1,2,2,-	127-18-4	Liquid	>480
Tetrachloro methane	56-23-5	Liquid	>480
Tetrachloro methane	56-23-5	Liquid	>480
Tetraethyl lead	78-00-2	Liquid	>480
Tetraethyl lead	78-00-2	Liquid	>480
Tetraethylene pentamine	112-57-2	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Tetraethylene pentamine	112-57-2	Liquid	>480
Tetrafluoroethane, 1,1,1,2-	811-97-2	Vapor	>480
Tetrafluoroethane, 1,1,1,2-	811-97-2	Vapor	>480
Tetrahydrofuran	109-99-9	Liquid	>480
Tetrahydrofuran	109-99-9	Liquid	>480
Tetramethylethylene diamine (TMEDA)	110-18-9	Liquid	>480
Tetramethylethylene diamine (TMEDA)	110-18-9	Liquid	>480
Thioglycolic acid	68-11-1	Liquid	>480
Thioglycolic acid	68-11-1	Liquid	>480
Thionyl chloride	7719-09-7	Liquid	15
Thionyl chloride	7719-09-7	Liquid	15
Titan(IV) chloride	7550-45-0	Liquid	120
Titan(IV) chloride	7550-45-0	Liquid	120
Titanium tetrachloride	7550-45-0	Liquid	120
Titanium tetrachloride	7550-45-0	Liquid	120
Toluene	108-88-3	Liquid	>480
Toluene	108-88-3	Liquid	>480
Toluene diisocyanate, 2,4-	584-84-9	Liquid	>480
Toluene diisocyanate, 2,4-	584-84-9	Liquid	>480
Toluene diisocyanate, 2,4- (80%)	584-84-9	Liquid	>480
Tributyl amine (95%)	102-82-9	Liquid	>480
Trichloro 1,2,2-trifluoroethane, 1,1,2-	76-13-1	Liquid	>480
Trichloro 1,2,2-trifluoroethane, 1,1,2-	76-13-1	Liquid	>480
Trichloro benzene, 1,2,4-	120-82-1	Liquid	>480
Trichloro benzene, 1,2,4-	120-82-1	Liquid	>480
Trichloro ethane, 1,1,1-	71-55-6	Liquid	>480
Trichloro ethane, 1,1,1-	71-55-6	Liquid	>480
Trichloro ethanol, 2,2,2-	115-20-8	Liquid	>480
Trichloro ethanol, 2,2,2-	115-20-8	Liquid	>480
Trichloro ethylene	79-01-6	Liquid	>480

Hazard / Chemical Name	Cas Number	Phase	Normalized Break Through .
Trichloro ethylene	79-01-6	Liquid	>480
Trichloro methane	67-66-3	Liquid	imm
Trichloro methane	67-66-3	Liquid	imm
Triethylenetetramine (60%)	112-24-3	Liquid	>480
VX Nerve Agent, MIL-STD-282 (10 g/m <sup>2</sup> )	50782-69-9	Liquid	>480 <sup>8</sup>
Vinyl acetate	108-05-4	Liquid	>480
Vinyl acetate	108-05-4	Liquid	>480
Vinyl benzol	100-42-5	Liquid	>480
Vinyl benzol	100-42-5	Liquid	>480
Vinyl carbinol	107-18-6	Liquid	>480
Vinyl carbinol	107-18-6	Liquid	>480
Vinyl chloride	75-01-4	Vapor	>480
Vinyl chloride	75-01-4	Vapor	>480
Vinyl cyanide	107-13-1	Liquid	31
Vinyl cyanide	107-13-1	Liquid	31
Vinyl ethylene (gaseous)	106-99-0	Vapor	>480
Vinylidene chloride	75-35-4	Liquid	170
Vinylidene chloride	75-35-4	Liquid	170
White Liquor	mix	Liquid	>480
White Liquor	mix	Liquid	>480
Xylene, mixed isomers	1330-20-7	Liquid	>480
Xylene, mixed isomers	1330-20-7	Liquid	>480
Xylene, o-	95-47-6	Liquid	>480

BT0.1 Normalized breakthrough time at 0.1 µg/cm<sup>2</sup>/min [mins] CAS Chemical abstracts service registry number min Minute > Larger than < Smaller than imm Immediate (< 10 min) nm Not tested sat Saturated solution N/A Not Applicable na Not attained GPR grade General purpose reagent grade \* Based on lowest single value 8 Actual

breakthrough time; normalized breakthrough time is not available DOT5 Degradation after 5 min DOT30 Degradation after 30 min DOT60 Degradation after 60 min DOT240 Degradation after 240 min BT1383 Normalized breakthrough time at 0.1 µg/cm<sup>2</sup>/min [mins] acc. ASTM F1383

**SPECIAL WARNINGS**

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