# DUPONT™ TYCHEM® 4000 S

## TECHNICAL DATA SHEET

CAT III

T3

T4

T5

T6

EN 1073-2

EN 14126



## PRODUCT INFORMATION

DuPont™ Tychem® 4000 S with socks. Hooded coverall. Attached socks and boot flaps. Stitched and over-taped seams. Double cuffs. Thumb loops. Elastication at wrists, ankles, face and waist. Double zippers and double flaps with chin flap. White.

## ATTRIBUTES

| | |
|---|---|
| **Full Part Number** | SLCHZ6TWH16 |
| **Fabric/Materials** | Tychem® 4000 |
| **Design** | Hooded coverall, double cuffs, double zippers and double flaps, attached socks |
| **Seam** | Stitched and over-taped |
| **Color** | White |
| **Sizes** | SM, MD, LG, XL, 2X, 3X |
| **Quantity/Box** | 15 per box, individually packed. |

## FEATURES

- Certified according to Regulation (EU) 2016/425
- Chemical protective clothing, Category III, Type 3-B, 4-B, 5-B and 6-B
- EN 14126 (barrier to infective agents), EN 1073-2 (protection against radioactive contamination)
- Antistatic treatment (EN 1149-5) - on inside; see footnotes
- Stitched and over-taped seams with barrier tape for protection and strength
- Double cuffs for good glove compability

### SIZETABLE

| PRODUCT SIZE | ARTICLE NUMBER | ADDITIONAL INFO |
|---|---|---|
| SM | D15193507 | MTO |
| MD | D15193519 | |
| LG | D15193524 | |
| XL | D15193534 | |
| 2X | D15193543 | |
| 3X | D15193554 | MTO |

### PHYSICAL PROPERTIES

| PROPERTY | TEST METHOD | TYPICAL RESULT | EN |
|---|---|---|---|
| Abrasion Resistance [7] | EN 530 Method 2 | >2000 cycles | 6/6 [1] |
| Basis Weight | DIN EN ISO 536 | 124 g/m$^2$ | N/A |
| Colour | N/A | White | N/A |
| Flex Cracking Resistance [7] | EN ISO 7854 Method B | >1000 cycles | 1/6 [1] |
| Flex Cracking Resistance at -30°C | EN ISO 7854 Method B | >1000 cycles | N/A |
| Puncture Resistance | EN 863 | >10 N | 2/6 [1] |
| Surface Resistance at RH 25%, inside [7] | EN 1149-1 | < 2,5 • 10$^9$ Ohm | N/A |
| Surface Resistance at RH 25%, outside [7] | EN 1149-1 | No antistatic treatment | N/A |
| Tensile Strength (MD) | DIN EN ISO 13934-1 | >100 N | 3/6 [1] |

| PROPERTY | TEST METHOD | TYPICAL RESULT | EN |
|---|---|---|---|
| Tensile Strength (XD) | DIN EN ISO 13934-1 | >100 N | 3/6 [1] |
| Trapezoidal Tear Resistance (MD) | EN ISO 9073-4 | >20 N | 2/6 [1] |
| Trapezoidal Tear Resistance (XD) | EN ISO 9073-4 | >20 N | 2/6 [1] |

1 According to EN 14325 | 2 According to EN 14126 | 3 According to EN 1073-2 | 4 According to EN 14116 | 12 According to EN 11612 | 5 Front Tyvek ® / Back | 6 Based on test according to ASTM D-572 | 7 See Instructions for Use for further information, limitations and warnings | > Larger than | < Smaller than | N/A Not Applicable | STD DEV Standard Deviation |

## GARMENT PERFORMANCE

| PROPERTY | TEST METHOD | TYPICAL RESULT | EN |
|---|---|---|---|
| Nominal protection factor [7] | EN 1073-2 | >5 | 1/3 [3] |
| Seam Strength | EN ISO 13935-2 | >125 N | 4/6 [1] |
| Shelf Life [7] | N/A | 5 years [6] | N/A |
| Type 3: Resistance to Penetration by Liquids (Jet Test) | EN 17491-3 | Pass [7] | N/A |
| Type 4: Resistance to Penetration by Liquids (High Level Spray Test) | EN ISO 17491-4, Method B | Pass | N/A |
| Type 5: Inward Leakage of Airborne Solid Particulates | EN ISO 13982-2 | Pass [7] | N/A |
| Type 6: Resistance to Penetration by Liquids (Low Level Spray Test) | EN ISO 17491-4, Method A | Pass | N/A |

1 According to EN 14325 | 3 According to EN 1073-2 | 12 According to EN 11612 | 13 According to EN 11611 | 5 Front Tyvek ® / Back | 6 Based on test according to ASTM D-572 | 7 See Instructions for Use for further information, limitations and warnings | 11 Based on the average of 10 suits, 3 activities, 3 probes | > Larger than | < Smaller than | N/A Not Applicable | * Based on lowest single value |

## COMFORT

| PROPERTY | TEST METHOD | TYPICAL RESULT | EN |
|---|---|---|---|
| Air Permeability (Gurley method) | ISO 5636-5 | No | N/A |
| Moisture Vapour Permeability | EN ISO 12752 Klima C | Impermeable | N/A |

2 According to EN 14126 | 5 Front Tyvek ® / Back | > Larger than | < Smaller than | N/A Not Applicable |

## PENETRATION AND REPELLENCY

| PROPERTY | TEST METHOD | TYPICAL RESULT | EN |
|---|---|---|---|
| Repellency to Liquids, o-Xylene | EN ISO 6530 | >95 % | 3/3 [1] |
| Repellency to Liquids, Butan-1-ol | EN ISO 6530 | >95 % | 3/3 [1] |
| Repellency to Liquids, Sodium Hydroxide (10%) | EN ISO 6530 | >95 % | 3/3 [1] |
| Repellency to Liquids, Sulphuric Acid (30%) | EN ISO 6530 | >95 % | 3/3 [1] |
| Resistance to Penetration by Liquids, Butan-1-ol | EN ISO 6530 | <1 % | 3/3 [1] |
| Resistance to Penetration by Liquids, Sodium Hydroxide (10%) | EN ISO 6530 | <1 % | 3/3 [1] |
| Resistance to Penetration by Liquids, Sulphuric Acid (30%) | EN ISO 6530 | <1 % | 3/3 [1] |
| Resistance to Penetration by Liquids, o-Xylene | EN ISO 6530 | <1 % | 3/3 [1] |

1 According to EN 14325 | > Larger than | < Smaller than |

## BIOLOGICAL BARRIER

| PROPERTY | TEST METHOD | TYPICAL RESULT | EN |
|---|---|---|---|
| Resistance to Penetration by Biologically Contaminated Aerosols | ISO/DIS 22611 | log ratio >5 | 3/3 [2] |
| Resistance to Penetration by Blood and Body Fluids using Synthetic Blood | ISO 16603 | 20 kPa | 6/6 [2] |
| Resistance to Penetration by Blood-borne Pathogens using Bacteriophage Phi-X174 | ISO 16604 Procedure C | 20 kPa | 6/6 [2] |

| PROPERTY | TEST METHOD | TYPICAL RESULT | EN |
|---|---|---|---|
| Resistance to Penetration by Contaminated Liquids | EN ISO 22610 | >75 min | 6/6 [2] |
| Resistance to Penetration by Contaminated Solid Particles | ISO 22612 | log cfu <1 | 3/3 [2] |

1 According to EN 14325 | > Larger than | < Smaller than |

PERMEATION DATA DUPONT™ TYCHEM® 4000 S

| HAZARD / CHEMICAL NAME | PHYSICAL STATE | CAS | BT ACT | BT 0.1 | BT 1.0 | EN | SSPR | MDPR | CUM 480 | TIME 150 | ISO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-(2-Ethoxyethoxy) ethanol | Liquid | 111-90-0 | >480 | >480 | >480 | 6 | <0.08 | 0.08 | <38.4 | >480 | 6 |
| Acetic acid (>95%) | Liquid | 64-19-7 | >480 | >480 | >480 | 6 | <0.02 | 0.02 | <9.6 | >480 | 6 |
| Acetic acid 2 ethoxy ethyl ester | Liquid | 111-15-9 | 67*/180 | 116*/238 | >480 | 6 | 0.11 | 0.01 | 3.04 | >480 | 6 |
| Acetic acid 2 methoxy ethyl ester | Liquid | 110-49-6 | 60 | >480 | >480 | 6 | 0.03 | 0.005 | 3.97 | >480 | 6 |
| Acetic acid ethenyl ester | Liquid | 108-05-4 | 23 | 24 | 30 | 1 | 20.3 | 0.0139 | | | |
| Acetic acid ethyl ester | Liquid | 141-78-6 | imm | imm | imm* /167 | | 1.55 | 0.01 | | | |
| Acetic anhydride | Liquid | 108-24-7 | imm*/23 | 12*/48 | >480 | 6 | na | 0.006 | | | |
| Acetic chloride | Liquid | 75-36-5 | 23 | 39*/63 | >480 | 6 | 0.146 | 0.006 | | | |
| Acetone | Liquid | 67-64-1 | 13 | 13 | 29*/258 | 1 | 0.9 | 0.01 | | | |
| Acetonitrile | Liquid | 75-05-8 | 56 | 60 | >480 | 6 | 0.35 | 0.05 | | | |
| Acetyl chloride | Liquid | 75-36-5 | 23 | 39*/63 | >480 | 6 | 0.146 | 0.006 | | | |
| Acroleic acid | Liquid | 79-10-7 | | >480 | >480 | 6 | <0.1 | 0.029 | | | |
| Acrolein (90%) | Liquid | 107-02-8 | | 24 | 24 | 1 | 7.9 | 0.009 | | | |
| Acrylamide (50%) | Liquid | 79-06-1 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Acrylic acid | Liquid | 79-10-7 | | >480 | >480 | 6 | <0.1 | 0.029 | | | |
| Acrylic acid n-butyl ester | Liquid | 141-32-2 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | >480 | >480 | 6 |
| Acrylicamide (50%) | Liquid | 79-06-1 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Acrylonitrile | Liquid | 107-13-1 | | 36*/48 | 36*/48 | 2 | 3.2 | 0.0085 | | | |
| Acryloyl Chloride | Liquid | 814-68-6 | imm | imm | imm | | na | 0.04 | 441/40 min | 23 | 1 |
| Allyl alcohol | Liquid | 107-18-6 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Amino 3,4-dichlorobenzene, 1- (70 °C, molten) | Liquid | 95-76-1 | imm | imm | imm | | 17 | 0.001 | | | |
| Amino benzene | Liquid | 62-53-3 | 322 | >480 | >480 | 6 | <0.025 | 0.005 | | | |
| Amino ethylethanolamine | Liquid | 111-41-1 | imm | imm | >480 | 6 | <0.3 | 0.005 | | | |
| Amino ethylethanolamine (60%) | Liquid | 111-41-1 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Amino ethylpiperazine | Liquid | 140-31-8 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Amino pyridine, 2- (sat) | Liquid | 504-29-0 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Ammonia (gaseous) | Vapor | 7664-41-7 | 25 | 26 | 33 | 2 | 0.25 | 0.0024 | | | |
| Ammonium hydroxide (2-3% in Householdcleaner) | Liquid | 1336-21-6 | | >480 | >480 | 6 | <0.1 | 0.0027 | | | |
| Ammonium hydroxide (32%) | Liquid | 1336-21-6 | 24 | >480 | >480 | 6 | 0.04 | 0.01 | 20 | >480 | 6 |
| Aniline | Liquid | 62-53-3 | 322 | >480 | >480 | 6 | <0.025 | 0.005 | | | |
| Antimony pentachloride | Liquid | 7647-18-9 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Benzenamine | Liquid | 62-53-3 | 322 | >480 | >480 | 6 | <0.025 | 0.005 | | | |
| Benzene | Liquid | 71-43-2 | imm | imm | imm | | >300 | 0.0126 | | | |
| Benzyl alcohol | Liquid | 100-51-6 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |
| Bis (4-(2,3-epoxypropoxy) phenyl)propane (80%) | Liquid | 1675-54-3 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |

| HAZARD / CHEMICAL NAME | PHYSICAL STATE | CAS | BT ACT | BT 0.1 | BT 1.0 | EN | SSPR | MDPR | CUM 480 | TIME 150 | ISO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bis phenol A diglycidyl ether (80%) | Liquid | 1675-54-3 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |
| Black Liquor (mix) | Liquid | mix | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Bromo methane | Vapor | 74-83-9 | | >480 | >480 | 6 | <0.1 | 0.0153 | | | |
| Butadiene, 1,3- (gaseous) | Vapor | 106-99-0 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Butanal, n- | Liquid | 123-72-8 | 22 | 41 | >480 | 6 | 0.16 | 0.004 | | | |
| Butanol, 1- | Liquid | 71-36-3 | >480 | >480 | >480 | 6 | <0.004 | 0.004 | <1.9 | >480 | 6 |
| Butanol, n- | Liquid | 71-36-3 | >480 | >480 | >480 | 6 | <0.004 | 0.004 | <1.9 | >480 | 6 |
| Butanone | Liquid | 78-93-3 | | 18 | 18 | 1 | 145 | 0.0116 | | | |
| Butanone oxime, 2- | Liquid | 96-29-7 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |
| Butenal, 2- | Liquid | 123-73-9 | | 34 | 34 | 2 | 14 | 0.0113 | | | |
| Butoxy ethanol, 2- | Liquid | 111-76-2 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | | |
| Butyl acrylate, n- | Liquid | 141-32-2 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | >480 | >480 | 6 |
| Butyl alcohol, n- | Liquid | 71-36-3 | >480 | >480 | >480 | 6 | <0.004 | 0.004 | <1.9 | >480 | 6 |
| Butyraldehyde, n- | Liquid | 123-72-8 | 22 | 41 | >480 | 6 | 0.16 | 0.004 | | | |
| Carbon disulfide | Liquid | 75-15-0 | imm | imm | imm | | 15.5 | 0.05 | | | |
| Carburant n° 2 | Liquid | 68476-30-2 | 87*/109 | >480 | >480 | 6 | <0.1 | 0.005 | | | |
| Caustic ammonia (2-3% in Householdcleaner) | Liquid | 1336-21-6 | | >480 | >480 | 6 | <0.1 | 0.0027 | | | |
| Caustic ammonia (32%) | Liquid | 1336-21-6 | 24 | >480 | >480 | 6 | 0.04 | 0.01 | 20 | >480 | 6 |
| Caustic soda (50%) | Liquid | 1310-73-2 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Cellosolve acetate | Liquid | 110-80-5 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Chemidize 727 ND (mix) | Liquid | mix | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Chlorine (gaseous) | Vapor | 7782-50-5 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |
| Chloro 1-methylbenzene, 2- | Liquid | 95-49-8 | | 13 | 13 | 1 | 102 | 0.0204 | | | |
| Chloro 2,3-epoxy propane, 1- | Liquid | 106-89-8 | 15 | 15 | 15 | 1 | >248 | 0.01 | | | |
| Chloro acetic acid (80%) | Liquid | 79-11-8 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Chloro acetone (95%) | Liquid | 78-95-5 | 360 | 258 | 258 | 5 | 0.557 | 0.0149 | | | |
| Chloro acetyl chloride | Liquid | 79-04-9 | 100 | 120 | 150 | 4 | >3.7 | 0.01 | | | |
| Chloro aniline, p- (70 °C, molten) | Liquid | 106-47-8 | imm | imm | imm | | 90 | 0.001 | | | |
| Chloro benzenamine, 4- (70 °C, molten) | Liquid | 106-47-8 | imm | imm | imm | | 90 | 0.001 | | | |
| Chloro ethene | Vapor | 75-01-4 | >480 | >480 | >480 | 6 | <0.06 | 0.06 | <28.8 | >480 | 6 |
| Chloro form | Liquid | 67-66-3 | imm | imm | imm | | | | | | |
| Chloro propan-2-one, 1- (95%) | Liquid | 78-95-5 | 360 | 258 | 258 | 5 | 0.557 | 0.0149 | | | |
| Chloro toluene, o- | Liquid | 95-49-8 | | 13 | 13 | 1 | 102 | 0.0204 | | | |
| Chlorsulfonic acid | Liquid | 7790-94-5 | | >480 | >480 | 6 | <0.1 | 0.038 | | | |
| Chromic acid (CrO3) (44.9%) | Liquid | 1333-82-0 | >480 | >480 | >480 | 6 | <0.07 | 0.07 | <33.6 | >480 | 6 |
| Cresol o- | Liquid | 95-48-7 | | >480 | >480 | 6 | <0.1 | 0.0174 | | | |
| Cresols, mixed isomers | Liquid | 1319-77-3 | 100 | 100 | 90*/130 | 3 | 1.14 | 0.01 | | | |
| Cresylic acid | Liquid | 1319-77-3 | 100 | 100 | 90*/130 | 3 | 1.14 | 0.01 | | | |
| Croton aldehyde | Liquid | 123-73-9 | | 34 | 34 | 2 | 14 | 0.0113 | | | |
| Crude oil | Liquid | 8002-05-9 | 162*/286 | >480 | >480 | 6 | <0.075 | 0.04 | | | |
| Cyanoethylene | Liquid | 107-13-1 | | 36*/48 | 36*/48 | 2 | 3.2 | 0.0085 | | | |
| Cyanomethane | Liquid | 75-05-8 | 56 | 60 | >480 | 6 | 0.35 | 0.05 | | | |

| HAZARD / CHEMICAL NAME | PHYSICAL STATE | CAS | BT ACT | BT 0.1 | BT 1.0 | EN | SSPR | MDPR | CUM 480 | TIME 150 | ISO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cyclo hexanone | Liquid | 108-94-1 | | 136 | 136 | 4 | 8 | 0.0158 | | | |
| Cyclo hexyl isocanyte | Liquid | 3173-53-3 | | 36*/54 | | | 1.74 | 0.0202 | | | |
| Diaminoethane, 1,2- | Liquid | 107-15-3 | >480 | >480 | >480 | 6 | <0.0097 | 0.0097 | <4.7 | >480 | 6 |
| Dichlorbenzen, 1,2- | Liquid | 95-50-1 | imm | 76 | >480 | 6 | 0.8 | 0.005 | 102.5 | >480 | 6 |
| Dichlorbenzen, 1,3- | Liquid | 541-73-1 | imm | 45 | 57 | 2 | 1.8 | 0.005 | 251.7 | nm | |
| Dichlorbenzen, 1,4- (50% in Ethanol) | Liquid | 106-46-7 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Dichlorethane, 1.2.- | Liquid | 107-06-2 | imm | imm | imm | | <80 | 0.04 | 676/20 min | 10 | |
| Dichloro -4,4'-methylenedianiline, 2,2'- (sat in Methanol) | Liquid | 101-14-4 | | >480 | >480 | 6 | <0.1 | 0.043 | | | |
| Dichloro aniline, 3,4- (70 ° C, molten) | Liquid | 95-76-1 | imm | imm | imm | | 17 | 0.001 | | | |
| Dichloro methane | Liquid | 75-09-2 | imm | imm | imm | | 30.4 | 0.09 | | | |
| Diesel Fuel Grade D-2 | Liquid | mix | >480 | >480 | >480 | 6 | <0.03 | 0.03 | <14.4 | >480 | 6 |
| Diethyl amine | Liquid | 109-89-7 | 15 | 15 | 15 | 1 | 11.5 | 0.05 | | | |
| Diethyl aniline crude | Liquid | 91-66-7 | | >480 | >480 | 6 | <0.1 | 0.024 | | | |
| Diethyl benzene (95%) | Liquid | 25340-17-4 | 30 | 31 | 42 | 2 | 19.7 | 0.0216 | | | |
| Diethyl ethanamine, N,N- | Liquid | 121-44-8 | 12 | 12*/22 | >480 | 6 | 0.23 | 0.04 | | | |
| Diethyl ether | Liquid | 60-29-7 | imm | imm | imm | | | 0.002 | | | |
| Diethyl m-toluidine, N,N- | Liquid | 91-67-8 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Diethylene imide oxide | Liquid | 110-91-8 | | 158 | >480 | 6 | 0.114 | 0.014 | | | |
| Diethylene triamine | Liquid | 111-40-0 | imm | imm* /321 | >480 | 6 | <0.15 | 0.005 | 0.3 | >480 | 6 |
| Dimethyl acetamide, N,N- | Liquid | 127-19-5 | 91 | 96 | 115 | 3 | 2.76 | 0.014 | | | |
| Dimethyl dichlorosilane | Liquid | 75-78-5 | | 46 | >480 | 6 | 0.131 | 0.0208 | | | |
| Dimethyl formamide, N,N- | Liquid | 68-12-2 | 86 | 90 | >480 | 6 | 0.56 | 0.03 | 146 | >480 | 6 |
| Dimethyl hydrazine, N,N- | Liquid | 57-14-7 | 13 | 13 | 11*/47 | 1 | 2.62 | 0.01 | | | |
| Dimethyl ketal | Liquid | 67-64-1 | 13 | 13 | 29*/258 | 1 | 0.9 | 0.01 | | | |
| Dimethyl ketone | Liquid | 67-64-1 | 13 | 13 | 29*/258 | 1 | 0.9 | 0.01 | | | |
| Dimethyl maleate | Liquid | 624-48-6 | | >480 | >480 | 6 | <0.1 | 0.0232 | | | |
| Dimethyl sulfate | Liquid | 77-78-1 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Diphenyl methane diisocyanate, 4,4'- (50 °C, molten) | Liquid | 101-68-8 | >480 | >480 | >480 | 6 | <0.0403 | 0.0403 | <19.3 | >480 | 6 |
| Disodium sulfide (60% (slurry)) | Liquid | 1313-82-2 | | >480 | >480 | 6 | <0.1 | 0.052 | | | |
| Epichlorohydrin | Liquid | 106-89-8 | 15 | 15 | 15 | 1 | >248 | 0.01 | | | |
| Epoxy ethane (gaseous) | Vapor | 75-21-8 | imm | imm | imm | | 21.8 | 0.01 | | | |
| Ethane 1,2-diol | Liquid | 107-21-1 | >480 | >480 | >480 | 6 | <0.006 | 0.006 | <2.8 | >480 | 6 |
| Ethane diol dipropanoate, 1,2- | Liquid | 123-73-9 | | 34 | 34 | 2 | 14 | 0.0113 | | | |
| Ethane nitrile | Liquid | 75-05-8 | 56 | 60 | >480 | 6 | 0.35 | 0.05 | | | |
| Ethane thiol | Liquid | 75-08-1 | imm | imm | imm | | 498 | 0.01 | | | |
| Ethanol | Liquid | 64-17-5 | | >480 | >480 | 6 | <0.1 | 0.0074 | | | |
| Ethanoyl chloride | Liquid | 75-36-5 | 23 | 39*/63 | >480 | 6 | 0.146 | 0.006 | | | |
| Ethoxy ethanol, 2- | Liquid | 110-80-5 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Ethoxy ethylacetat | Liquid | 111-15-9 | 67*/180 | 116*/238 | >480 | 6 | 0.11 | 0.01 | 3.04 | >480 | 6 |
| Ethyl Cellosolve® | Liquid | 110-80-5 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Ethyl acetate | Liquid | 141-78-6 | imm | imm | imm* /167 | | 1.55 | 0.01 | | | |
| Ethyl alcohol | Liquid | 64-17-5 | | >480 | >480 | 6 | <0.1 | 0.0074 | | | |

| HAZARD / CHEMICAL NAME | PHYSICAL STATE | CAS | BT ACT | BT 0.1 | BT 1.0 | EN | SSPR | MDPR | CUM 480 | TIME 150 | ISO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethyl benzene | Liquid | 100-41-4 | imm | imm | >480 | 6 | <0.25 | 0.005 | 8.7 | >480 | 6 |
| Ethyl ethanamine, N- | Liquid | 109-89-7 | 15 | 15 | 15 | 1 | 11.5 | 0.05 | | | |
| Ethyl ether | Liquid | 60-29-7 | imm | imm | imm | | | 0.002 | | | |
| Ethyl glycol acetate | Liquid | 111-15-9 | 67*/180 | 116*/238 | >480 | 6 | 0.11 | 0.01 | 3.04 | >480 | 6 |
| Ethyl mercaptan | Liquid | 75-08-1 | imm | imm | imm | | 498 | 0.01 | | | |
| Ethyl nitrile | Liquid | 75-05-8 | 56 | 60 | >480 | 6 | 0.35 | 0.05 | | | |
| Ethylene carboxylic acid | Liquid | 79-10-7 | | >480 | >480 | 6 | <0.1 | 0.029 | | | |
| Ethylene diamine | Liquid | 107-15-3 | >480 | >480 | >480 | 6 | <0.0097 | 0.0097 | <4.7 | >480 | 6 |
| Ethylene dichloride | Liquid | 107-06-2 | imm | imm | imm | | <80 | 0.04 | 676/20 min | 10 | |
| Ethylene glycol | Liquid | 107-21-1 | >480 | >480 | >480 | 6 | <0.006 | 0.006 | <2.8 | >480 | 6 |
| Ethylene glycol mono ethyl ether acetate | Liquid | 111-15-9 | 67*/180 | 116*/238 | >480 | 6 | 0.11 | 0.01 | 3.04 | >480 | 6 |
| Ethylene glycol monobutyl ether | Liquid | 111-76-2 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | | |
| Ethylene glycol monoethyl ether | Liquid | 110-80-5 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Ethylene glycol monomethyl ether | Liquid | 109-86-4 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Ethylene glycol monomethyl ether acetate | Liquid | 110-49-6 | 60 | >480 | >480 | 6 | 0.03 | 0.005 | 3.97 | >480 | 6 |
| Ethylene oxide (gaseous) | Vapor | 75-21-8 | imm | imm | imm | | 21.8 | 0.01 | | | |
| Ethylene tetrachloride | Liquid | 127-18-4 | imm | imm | imm | | 2.28 | 0.03 | | | |
| Ethylene trichloride | Liquid | 79-01-6 | imm | imm | imm | | | | | | |
| Ferric (III) chloride (50%) | Liquid | 7705-08-0 | | >480 | >480 | 6 | <0.046 | 0.046 | | | |
| Fluorobenzene | Liquid | 462-06-6 | imm | imm | imm | | >500 | 0.1 | | | |
| Fluoroboric acid (48-50%) | Liquid | 16872-11-0 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Fluorosilicic acid (33-35%) | Liquid | 16961-83-4 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Formaldehyde (37%) | Liquid | 50-00-0 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Formalin (37% (10-15% Methanol)) | Liquid | 50-00-0 | >480 | >480 | >480 | 6 | <0.0048 | 0.0048 | <2.3 | >480 | 6 |
| Formalin (37%) | Liquid | 50-00-0 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Formic acid (88%) | Liquid | 64-18-6 | | >480 | >480 | 6 | <0.1 | 0.019 | | | |
| Fuel-oil no 2 | Liquid | 68476-30-2 | 87*/109 | >480 | >480 | 6 | <0.1 | 0.005 | | | |
| Furaldehyde, 2- | Liquid | 98-01-1 | | 198*/227 | | | 1.1 | 0.0155 | | | |
| Furfural | Liquid | 98-01-1 | | 198*/227 | | | 1.1 | 0.0155 | | | |
| Gasoline, unleaded | Liquid | 86290-81-5 | imm | imm | imm | | 4.8 | 0.03 | | | |
| Gasoline, unleaded E10 (87 Octane) | Liquid | 308066-70-8 | imm | imm | imm | | >13.83 | 0.04 | | | |
| Glutaral (50%) | Liquid | 111-30-8 | | >480 | >480 | 6 | <0.0161 | 0.0161 | | | |
| Glutaraldehyde (50%) | Liquid | 111-30-8 | | >480 | >480 | 6 | <0.0161 | 0.0161 | | | |
| Glycol alcohol | Liquid | 107-21-1 | >480 | >480 | >480 | 6 | <0.006 | 0.006 | <2.8 | >480 | 6 |
| Green Liquor (mix) | Liquid | mix | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Hexamethyl disilazane | Liquid | 999-97-3 | | >480 | >480 | 6 | <0.1 | 0.026 | | | |
| Hexamethyl disilazane, 1,1,1,3,3,3- | Liquid | 999-97-3 | | >480 | >480 | 6 | <0.1 | 0.026 | | | |
| Hexamethylene diamine (50 °C, molten) | Liquid | 124-09-4 | 60 | 80 | 120 | 3 | >1.52 | 0.01 | | | |
| Hexamethylene diisocyanate | Liquid | 822-06-0 | >480 | >480 | >480 | 6 | <0.0271 | 0.0271 | <13 | >480 | 6 |
| Hexane, n- | Liquid | 110-54-3 | imm | imm | >480 | 6 | 0.42 | 0.01 | | | |
| Hexanone | Liquid | 108-94-1 | | 136 | 136 | 4 | 8 | 0.0158 | | | |
| Hydrazine | Liquid | 302-01-2 | | >480 | >480 | 6 | <0.1 | 0.0052 | | | |

| HAZARD / CHEMICAL NAME | PHYSICAL STATE | CAS | BT ACT | BT 0.1 | BT 1.0 | EN | SSPR | MDPR | CUM 480 | TIME 150 | ISO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Hydriodic acid (47%) | Liquid | 10034-85-2 | | >480 | >480 | 6 | <0.1 | 0.052 | | | |
| Hydrochloric acid (37%) | Liquid | 7647-01-0 | | >480 | >480 | 6 | <0.1 | 0.015 | | | |
| Hydrofluoric acid (48-51%) | Liquid | 7664-39-3 | | >480 | >480 | 6 | <0.1 | 0.008 | | | |
| Hydrofluoric acid (70%) | Liquid | 7664-39-3 | 98 | 143 | >480 | 6 | <0.5 | 0.04 | 84.8 | >480 | 6 |
| Hydrogen chloride (gaseous) | Vapor | 7647-01-0 | | >480 | >480 | 6 | <0.1 | 0.015 | | | |
| Hydrogen fluoride (20-27 ° C, gaseous) | Vapor | 7664-39-3 | 93*/133 | 93*/134 | 94*/138 | 3 | 40.1 | 0.0008 | | | |
| Hydrogen peroxide (30%) | Liquid | 7722-84-1 | | >480 | >480 | 6 | <0.1 | 0.014 | | | |
| Hydroxy 2-nitrobenzene, 1- (70 °C, molten) | Liquid | 88-75-5 | | imm | imm | | 4.53 | 0.004 | | | |
| Hydroxy toluene | Liquid | 100-51-6 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |
| Hydroxy toluene, o- | Liquid | 95-48-7 | | >480 | >480 | 6 | <0.1 | 0.0174 | | | |
| Iodine | Solid | 7553-56-2 | | >480 | >480 | 6 | <0.1 | 0.0409 | | | |
| Iodomethane | Liquid | 74-88-4 | imm | imm | imm | | 342 | 0.007 | | | |
| Isoamyl alcohol | Liquid | 123-51-3 | >480 | >480 | >480 | 6 | <0.006 | 0.006 | <2.9 | >480 | 6 |
| Isopropanol | Liquid | 67-63-0 | >480 | >480 | >480 | 6 | <0.0097 | 0.0097 | <4.7 | >480 | 6 |
| Isopropanol (70%) | Liquid | 67-63-0 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Isopropyl alcohol | Liquid | 67-63-0 | >480 | >480 | >480 | 6 | <0.0097 | 0.0097 | <4.7 | >480 | 6 |
| Isopropyl alcohol (70%) | Liquid | 67-63-0 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Isopropylidenediphenol diglycidyl ether, 4,4'- (80%) | Liquid | 1675-54-3 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |
| JP-4 Jet Fuel | Liquid | 50815-00-4 | imm | imm | imm*/22 | | >13 | 0.05 | | | |
| JP-8 Jet Fuel | Liquid | 94114-58-6 | 27 | 39*/67 | >480 | 6 | 0.61 | 0.01 | | | |
| Kerosene | Liquid | 8008-20-6 | | 69 | | | 0.185 | 0.0185 | | | |
| Ketone propane | Liquid | 67-64-1 | 13 | 13 | 29*/258 | 1 | 0.9 | 0.01 | | | |
| Lewisite (L), MIL-STD-282 (10 g/m$^2$) | Liquid | 541-25-3 | | >360[8] | | | | | | | |
| Maleic anhydride (66 °C, molten) | Liquid | 108-31-6 | 12 | 13 | 18 | 1 | 9.2 | 0.016 | | | |
| Mercuric II chloride (sat) | Liquid | 7487-94-7 | | >480 | >480 | 6 | <0.1 | 0.087 | | | |
| Mercury | Liquid | 7439-97-6 | >480 | >480 | >480 | 6 | <0.09 | 0.09 | <43.2 | >480 | 6 |
| Methanesulphonic acid (70%) | Liquid | 75-75-2 | | >480 | >480 | 6 | <0.1 | 0.031 | | | |
| Methanol | Liquid | 67-56-1 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |
| Methoxy 2-methylpropane, 2- | Liquid | 1634-04-4 | 17 | >480 | >480 | 6 | <0.1 | 0.004 | | | |
| Methoxy ethanol, 2 | Liquid | 109-86-4 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Methoxy ethylacetate, 2- | Liquid | 110-49-6 | 60 | >480 | >480 | 6 | 0.03 | 0.005 | 3.97 | >480 | 6 |
| Methyl 2-methyl-2-propenoate | Liquid | 80-62-6 | | 23 | 23 | 1 | 161 | 0.0161 | | | |
| Methyl 2-pyrrolidon, N- | Liquid | 872-50-4 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Methyl acetyl | Liquid | 67-64-1 | 13 | 13 | 29*/258 | 1 | 0.9 | 0.01 | | | |
| Methyl acrolein | Liquid | 123-73-9 | | 34 | 34 | 2 | 14 | 0.0113 | | | |
| Methyl aniline, o- | Liquid | 95-53-4 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Methyl benzol | Liquid | 108-88-3 | imm | imm | imm | | 5.87 | 0.03 | | | |
| Methyl bromide | Vapor | 74-83-9 | | >480 | >480 | 6 | <0.1 | 0.0153 | | | |
| Methyl butan-1-ol, 3- | Liquid | 123-51-3 | >480 | >480 | >480 | 6 | <0.006 | 0.006 | <2.9 | >480 | 6 |
| Methyl chloride (-70 °C, liquid) | Vapor | 74-83-9 | | >480 | >480 | 6 | <0.1 | 0.0153 | | | |
| Methyl chloride (gaseous) | Vapor | 74-87-3 | >480 | >480 | >480 | 6 | <0.02 | 0.02 | <9.6 | >480 | 6 |

| HAZARD / CHEMICAL NAME | PHYSICAL STATE | CAS | BT ACT | BT 0.1 | BT 1.0 | EN | SSPR | MDPR | CUM 480 | TIME 150 | ISO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methyl cyanide | Liquid | 75-05-8 | 56 | 60 | >480 | 6 | 0.35 | 0.05 | | | |
| Methyl ethyl ketone | Liquid | 78-93-3 | | 18 | 18 | 1 | 145 | 0.0116 | | | |
| Methyl ethyl ketoxime | Liquid | 96-29-7 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |
| Methyl iodide | Liquid | 74-88-4 | imm | imm | imm | | 342 | 0.007 | | | |
| Methyl isocyanate | Liquid | 624-83-9 | imm | imm | imm | | 210 | 0.0081 | | | |
| Methyl ketone | Liquid | 67-64-1 | 13 | 13 | 29*/258 | 1 | 0.9 | 0.01 | | | |
| Methyl methacrylate | Liquid | 80-62-6 | | 23 | 23 | 1 | 161 | 0.0161 | | | |
| Methyl phenols | Liquid | 1319-77-3 | 100 | 100 | 90*/130 | 3 | 1.14 | 0.01 | | | |
| Methyl salicylate | Liquid | 119-36-8 | >480 | >480 | >480 | 6 | <0.006 | 0.006 | <2.9 | >480 | 6 |
| Methyl tert-butyl ether | Liquid | 1634-04-4 | 17 | >480 | >480 | 6 | <0.1 | 0.004 | | | |
| Methylen Isocyclohexylamine, 4,4- (50 °C, molten) | Liquid | 1761-71-3 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Methylene bis(2-Chloroaniline), 4,4- (sat in Methanol) | Liquid | 101-14-4 | | >480 | >480 | 6 | <0.1 | 0.043 | | | |
| Methylene chloride | Liquid | 75-09-2 | imm | imm | imm | | 30.4 | 0.09 | | | |
| Methylene diphenyl diisocyanate, 4,4'- (50 °C, molten) | Liquid | 101-68-8 | >480 | >480 | >480 | 6 | <0.0403 | 0.0403 | <19.3 | >480 | 6 |
| Mineral oil | Liquid | 8012-95-1 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Mineral spirit | Liquid | 64475-85-0 | | 190 | >480 | 6 | 0.27 | 0.018 | | | |
| Morpholine | Liquid | 110-91-8 | | 158 | >480 | 6 | 0.114 | 0.014 | | | |
| Naphthalene (25% in Diethylene glycol dimethylether) | Liquid | 91-20-3 | 57 | 79 | >480 | 6 | <0.5 | 0.007 | 54 | >480 | 6 |
| Nitric acid (70%) | Liquid | 7697-37-2 | | >480 | >480 | 6 | <0.1 | 0.025 | | | |
| Nitro benzene | Liquid | 98-95-3 | 55 | 59 | 78 | 3 | na | 0.05 | | | |
| Nitro phenol, o- (70 °C, molten) | Liquid | 88-75-5 | | imm | imm | | 4.53 | 0.004 | | | |
| Nitro toluene, 2- | Liquid | 88-72-2 | 95 | 95 | 141*/255 | 4 | 2 | 0.07 | | | |
| Norflurane | Vapor | 811-97-2 | | >480 | >480 | 6 | <0.1 | 0.0164 | | | |
| Oleum (20% free SO3) | Liquid | 8014-95-7 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Oleum (30% free SO3) | Liquid | 8014-95-7 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| PCB 1254 (50% in Mineral Oil) | Liquid | 11097-69-1 | | >480 | >480 | 6 | <0.1 | 0.0483 | | | |
| PCB 1254 (90%) | Liquid | 11097-69-1 | | >480 | >480 | 6 | <0.1 | 0.0483 | | | |
| Pentachloroantimony | Liquid | 7647-18-9 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Pentanedial, 1,5- (50%) | Liquid | 111-30-8 | | >480 | >480 | 6 | <0.0161 | 0.0161 | | | |
| Phenethylene | Liquid | 100-42-5 | | 16 | 16 | 1 | na | 83.6 | | | |
| Phenol (45 °C, molten) | Liquid | 108-95-2 | 41 | 44 | 79 | 3 | na | 0.05 | <79, 120 min | 148 | 4 |
| Phenol (60 °C, molten) | Liquid | 108-95-2 | imm | imm | imm | | <20 | 0.01 | 455/52 min | 31 | 2 |
| Phenol (85%) | Liquid | 108-95-2 | >480 | >480 | >480 | 6 | <0.006 | 0.006 | <2.9 | >480 | 6 |
| Phenyl amine | Liquid | 62-53-3 | 322 | >480 | >480 | 6 | <0.025 | 0.005 | | | |
| Phenyl ethane | Liquid | 100-41-4 | imm | imm | >480 | 6 | <0.25 | 0.005 | 8.7 | >480 | 6 |
| Phenyl ethanol, 1- | Liquid | 98-85-1 | >480 | >480 | >480 | 6 | <0.06 | 0.06 | <28.8 | >480 | 6 |
| Phenyl glycidyl ether | Liquid | 122-60-1 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Phenyl trichlorosilane | Liquid | 98-13-5 | | >480 | >480 | 6 | <0.1 | 0.0341 | | | |
| Phosphoric acid (85%) | Liquid | 7664-38-2 | | >480 | >480 | 6 | <0.1 | 0.039 | | | |
| Phosphorus trichloride | Liquid | 7719-12-2 | imm | imm | imm | | >1000 | 0.01 | | | |
| Pimelic ketone | Liquid | 108-94-1 | | 136 | 136 | 4 | 8 | 0.0158 | | | |

| HAZARD / CHEMICAL NAME | PHYSICAL STATE | CAS | BT ACT | BT 0.1 | BT 1.0 | EN | SSPR | MDPR | CUM 480 | TIME 150 | ISO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Polymethylene polyphenyle isocyanate (p-MDI) | Liquid | 9016-87-9 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Potassium acetate (sat) | Liquid | 127-08-2 | >480 | >480 | >480 | 6 | <0.02 | 0.02 | <9.6 | >480 | 6 |
| Potassium chromate (sat) | Liquid | 7789-00-6 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Potassium hydroxide (45%) | Liquid | 1310-58-3 | >480 | >480 | >480 | 6 | <0.1 | 0.023 | >480 | | |
| Prop-2-en-1-al (90%) | Liquid | 107-02-8 | | 24 | 24 | 1 | 7.9 | 0.009 | | | |
| Propan -2-ol | Liquid | 67-63-0 | >480 | >480 | >480 | 6 | <0.0097 | 0.0097 | <4.7 | >480 | 6 |
| Propan -2-ol (70%) | Liquid | 67-63-0 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Propan -2-one | Liquid | 67-64-1 | 13 | 13 | 29*/258 | 1 | 0.9 | 0.01 | | | |
| Propen 1-ol, 2- | Liquid | 107-18-6 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Propenamide (50%) | Liquid | 79-06-1 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Propene acid | Liquid | 79-10-7 | | >480 | >480 | 6 | <0.1 | 0.029 | | | |
| Propenenitrile, 2- | Liquid | 107-13-1 | | 36*/48 | 36*/48 | 2 | 3.2 | 0.0085 | | | |
| Propenoic acid butyl ester, 2- | Liquid | 141-32-2 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | >480 | >480 | 6 |
| Propenoic acid nitrile | Liquid | 107-13-1 | | 36*/48 | 36*/48 | 2 | 3.2 | 0.0085 | | | |
| Propyl bromide, n- | Liquid | 106-94-5 | | 12 | 12 | 1 | 16.2 | 0.04 | | | |
| Propylene aldehyde | Liquid | 123-73-9 | | 34 | 34 | 2 | 14 | 0.0113 | | | |
| Pyridine | Liquid | 110-86-1 | | 31 | 31 | 2 | 63.5 | 0.0127 | | | |
| Pyroacetic ether | Liquid | 67-64-1 | 13 | 13 | 29*/258 | 1 | 0.9 | 0.01 | | | |
| Sarin (GB), MIL-STD-282 (10 g/m$^2$) | Liquid | 107-44-8 | | >480[8] | | | | | | | |
| Silicon tetrachloride | Liquid | 10026-04-7 | 35 | 35 | 35 | 2 | >43 | 0.01 | | | |
| Sodium bisulphite (38-40%) | Liquid | 7631-90-5 | >480 | >480 | >480 | 6 | <0.07 | 0.07 | <33.6 | >480 | 6 |
| Sodium cyanide (sat) | Liquid | 143-33-9 | >480 | >480 | >480 | 6 | <0.05 | 0.05 | <24 | >480 | 6 |
| Sodium fluoride (sat) | Liquid | 7681-49-4 | | >480 | >480 | 6 | <0.1 | 0.014 | | | |
| Sodium hydroxide (50%) | Liquid | 1310-73-2 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Sodium hypochlorite (15%) | Liquid | 7681-52-9 | >480 | >480 | >480 | 6 | <0.03 | 0.03 | <14.4 | >480 | 6 |
| Sodium metabisulphite (38%) | Liquid | 7681-57-4 | | >480 | >480 | 6 | <0.1 | 0.052 | | | |
| Spiritus | Liquid | 64-17-5 | | >480 | >480 | 6 | <0.1 | 0.0074 | | | |
| Styrene | Liquid | 100-42-5 | | 16 | 16 | 1 | na | 83.6 | | | |
| Sulfur Mustard (HD), MIL-STD-282 (10 g/m$^2$) | Liquid | 505-60-2 | | >480[8] | | | | | | | |
| Sulfur dioxide | Vapor | 7446-09-5 | >480 | >480 | >480 | 6 | <0.02 | 0.02 | <9.6 | >480 | 6 |
| Sulfuric acid (>95%) | Liquid | 7664-93-9 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Sulfuric acid dimethyl ester | Liquid | 77-78-1 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Sulfuric acid fuming (20% free SO3) | Liquid | 8014-95-7 | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |
| Sulfuric acid fuming (30% free SO3) | Liquid | 8014-95-7 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Tetrachloro ethane, 1,1,2,2,- | Liquid | 79-34-5 | 25 | 25 | 37 | 2 | 75.4 | 0.027 | | | |
| Tetrachloro ethylene, 1,1,2,2- | Liquid | 127-18-4 | imm | imm | imm | | 2.28 | 0.03 | | | |
| Tetraethyl ammonium hydroxide (35%) | Liquid | 77-98-5 | | >480 | >480 | 6 | <0.0237 | 0.0237 | | | |
| Tetraethylene pentamine | Liquid | 112-57-2 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Tetrafluoroethane, 1,1,1,2- | Vapor | 811-97-2 | | >480 | >480 | 6 | <0.1 | 0.0164 | | | |

| HAZARD / CHEMICAL NAME | PHYSICAL STATE | CAS | BT ACT | BT 0.1 | BT 1.0 | EN | SSPR | MDPR | CUM 480 | TIME 150 | ISO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrahydrofuran | Liquid | 109-99-9 | imm | imm | imm | | 238.8 | 0.08 | | | |
| Tetramethyl ammonium hydroxide (25%) | Liquid | 75-59-2 | >480 | >480 | >480 | 6 | <0.025 | 0.025 | <12 | >480 | 6 |
| Thioalkohol | Liquid | 75-08-1 | imm | imm | imm | | 498 | 0.01 | | | |
| Titan(IV) chloride | Liquid | 7550-45-0 | imm | imm | 45 | 2 | >497 | 0.01 | | | |
| Titanium tetrachloride | Liquid | 7550-45-0 | imm | imm | 45 | 2 | >497 | 0.01 | | | |
| Toluene | Liquid | 108-88-3 | imm | imm | imm | | 5.87 | 0.03 | | | |
| Toluene diisocyanate, 2,4- | Liquid | 584-84-9 | >480 | >480 | >480 | 6 | <0.0281 | 0.0281 | <13.5 | >480 | 6 |
| Toluene diisocyanate, 2,4- (80%) | Liquid | 584-84-9 | | >480 | >480 | 6 | <0.1 | 0.0281 | | | |
| Toluidine, m- | Liquid | 108-44-1 | 201 | >480 | >480 | 6 | 0.08 | 0.005 | | | |
| Toluidine, o- | Liquid | 95-53-4 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Trichlor vinylsilane | Liquid | 75-94-5 | 90 | 100 | 110 | 3 | >1.2 | 0.01 | | | |
| Trichloro benzene, 1,2,4- | Liquid | 120-82-1 | 87 | 87 | 175 | 4 | >2.5 | 0.1 | | | |
| Trichloro ethanol, 2,2,2- | Liquid | 115-20-8 | >480 | >480 | >480 | 6 | <0.008 | 0.008 | <3.8 | >480 | 6 |
| Trichloro ethylene | Liquid | 79-01-6 | imm | imm | imm | | | | | | |
| Trichloro methane | Liquid | 67-66-3 | imm | imm | imm | | | | | | |
| Trichloro phenylsilane | Liquid | 98-13-5 | | >480 | >480 | 6 | <0.1 | 0.0341 | | | |
| Trichloro silane | Liquid | 10025-78-2 | 45 | 60 | 60 | 2 | >2.5 | 0.01 | | | |
| Triethyl amine | Liquid | 121-44-8 | 12 | 12*/22 | >480 | 6 | 0.23 | 0.04 | | | |
| Triethylentetramine (60%) | Liquid | 112-24-3 | >480 | >480 | >480 | 6 | <0.005 | 0.005 | <2.4 | >480 | 6 |
| Trifluoro acetic acid | Liquid | 76-05-1 | imm | >480 | >480 | 6 | | 0.004 | | | |
| Trifluoro methansulfonic acid | Liquid | 1493-13-6 | 66*/88 | >480 | >480 | 6 | | 0.009 | | | |
| Trimethyl phosphite | Liquid | 121-45-9 | 208 | 210 | 229 | 4 | na | 0.02 | | | |
| VM & P Naphtha | Liquid | 8030-30-6 | imm | imm | 11*/15 | 1 | 21.7 | 0.0201 | | | |
| VX Nerve Agent, MIL-STD-282 (10 g/m$^2$) | Liquid | 50782-69-9 | | >480[8] | | | | | | | |
| Vinyl acetate | Liquid | 108-05-4 | 23 | 24 | 30 | 1 | 20.3 | 0.0139 | | | |
| Vinyl benzol | Liquid | 100-42-5 | | 16 | 16 | 1 | na | 83.6 | | | |
| Vinyl carbinol | Liquid | 107-18-6 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Vinyl chloride | Vapor | 75-01-4 | >480 | >480 | >480 | 6 | <0.06 | 0.06 | <28.8 | >480 | 6 |
| Vinyl cyanide | Liquid | 107-13-1 | | 36*/48 | 36*/48 | 2 | 3.2 | 0.0085 | | | |
| Vinyl ethylene (gaseous) | Vapor | 106-99-0 | >480 | >480 | >480 | 6 | <0.01 | 0.01 | <4.8 | >480 | 6 |
| Vinyl magnesium chloride (15% in Tetrahydrofuran) | Liquid | 3536-96-7 | imm | imm | imm | | 3.27 | 0.01 | | | |
| Vinyl pyridine, 4- | Liquid | 100-43-6 | 15 | 15 | 45 | 2 | >1.93 | 0.01 | | | |
| White Liquor | Liquid | mix | >480 | >480 | >480 | 6 | <0.04 | 0.04 | <19.2 | >480 | 6 |

BTAct (Actual) Breakthrough time at MDPR [mins] | BT0.1 Normalized breakthrough time at 0.1 µg/cm²/min [mins] | BT1.0 Normalized breakthrough time at 1.0 µg/cm²/min [mins] | EN Classification according to EN 14325 | SSPR Steady state permeation rate [µg/cm²/min] | MDPR Minimum detectable permeation rate [µg/cm²/min] | CUM480 Cumulative permeation mass after 480 mins [µg/cm²] | Time150 Time to reach cumulative permeation mass of 150 µg/cm² [mins] | ISO Classification according to ISO 16602 | 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/cm²/min [mins] acc. ASTM F1383 |

**Important Note**

The permeation data published have been generated for DuPont by independent accredited testing laboratories according to the test method applicable at that time (EN ISO 6529 (method A and B), ASTM F739, ASTM F1383, ASTM D6978, EN369, EN 374-3) The data is typically the average of three fabrics samples tested.

All chemicals have been tested at an assay of greater than 95 (w/w) % unless otherwise stated. The tests were performed between 20 °C and 27 °C and at environmental pressure unless otherwise stated. A different temperature may have significant influence on the breakthrough time. Permeation typically increases with temperature. Cumulative permeation data have been measured or have been calculated based on minimum detectable permeation rate. Cytostatic drugs testing has been performed at a test temperature of 27°C according to ASTM D6978 or ISO 6529 with the additional requirement of reporting a normalized breakthrough time at 0.01 µg/cm²/min. Chemical warfare agents (Lewisite, Sarin, Soman, Mustard, Tabun and VX Nerve Agent) have been tested according to MIL-STD-282 at 22°C or according to FINABEL 0.7 at 37°C. Permeation data for Tyvek® is applicable to white Tyvek® 500 and Tyvek® 600 only and is not applicable for other Tyvek® styles or colours. Permeation data are usually measured for single chemicals. The permeation characteristics of mixtures can often deviate considerably from the behaviour of the individual chemicals. The permeation data for gloves published have been generated according to ASTM F739 and to ASTM F1383. The degradation data for gloves published have been generated based on a gravimetric method. This degradation testing exposes one side of the glove material to the test chemical for four hours. The percent weight change after exposure is measured at four time intervals: 5, 30, 60 and 240 minutes.

Degradation Ratings:

- E: EXCELLENT (0-10% Weight Change)
- G: GOOD (11-20% Weight Change)
- F: FAIR (21-30% Weight Change)
- P: POOR (31-50% Weight Change)
- NR: NOT RECOMMENDED (Above 50% Weight Change)
- NT: NOT TESTED

Degradation is the physical change in a material after chemical exposure. Typical observable effects may be swelling, wrinkling, deterioration, or delamination. Strength loss may also occur.

Please use the permeation data provided as a part of the risk assessment to assist with the selection of a protective fabric, garment, glove or accessory suitable for your application. Breakthrough time is not the same as safe wear time. Breakthrough times are indicative of the barrier performance, but results can vary between the test methods and laboratories. Breakthrough time alone is insufficient to determine how long a garment may be worn once the garment has been contaminated. Safe user wear time may be longer orshorter than the breakthrough time depending on the permeation behaviour of the substance, the toxicity of the substance, working conditions and the exposure conditions (e.g. temperature, pressure, concentration, physical state).

Latest Update Permeation Data: 5/5/2020

The information provided herein corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials or additives or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights.

**WARNING**

For enhanced liquid protection, taping of outer cuff to glove is recommended. A double cuff is not a substitute for supplementary taping.

MTO: Made to order terms & conditions apply. The garment does not protect against ionizing radiation.

The information provided herein corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials or additives or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights.

This garment and/or fabric are not flame resistant and should not be used around heat, open flame, sparks or in potentially flammable environments.

Working in Ex-Zones: Please take this into account for your risk-assessment that the attached socks may isolate the wearer. There is the possibility that the garment and wearer cannot by grounded via the shoes and other measures for grounding the garment and the wearer are required.

**DuPont™ SafeSPEC™ - We're here to help**

Our powerful web-based tool can assist you with finding the appropriate DuPont garments for chemical, controlled environment, thermal and mechanical hazards.



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