

# SL122T WH

DuPont™ Tychem® SL



## Chemical Resistance Data

### Testing Details

Tychem® SL - Fabric Data			
Hazard / Chemical Name	CAS Number	Phase	Breakthrough Time (average, normalized to 0.1 ug/cm <sup>2</sup> /min) / Performance
(2-Ethoxyethoxy)-ethanol, 2-	111-90-0	Liquid	>480
1,1,1,2-Tetrachloroethylene	127-18-4	Liquid	imm.
1,3-Butadiene (gas)	106-99-0	Vapor	>480
1,5-Pentanedial (50%)	111-30-8	Liquid	>480
1-Bromopropane	106-94-5	Liquid	12
1-Propyl bromide	106-94-5	Liquid	12
Acetic acid	64-19-7	Liquid	>480
Acetic anhydride	108-24-7	Liquid	48
Acetone	67-64-1	Liquid	imm.

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			(average, normalized to 0.1 ug/cm <sup>2</sup> /min)  / Performance
Acetonitrile	75-05-8	Liquid	68
Acetyl chloride	75-36-5	Liquid	37*
Acrolein	107-02-8	Liquid	24
Acrylamide (50% in water)	79-06-1	Liquid	>480
Acrylic acid	79-10-7	Liquid	>480
Acrylonitrile	107-13-1	Liquid	48
Allyl alcohol	107-18-6	Liquid	>480
Allyl chloride	107-05-1	Liquid	imm.
Aminopyridine, 2-	504-29-0	Liquid	321
Ammonia (gas)	7664-41-7	Vapor	32
Ammonium hydroxide (28%-30%)	1336-21-6	Liquid	>480
Ammonium hydroxide (in household cleaner, 2-3%)	1336-21-6	Liquid	>480
Anhydrous ammonia (gas)	7664-41-7	Vapor	32
Aniline	62-53-3	Liquid	>480
Animal Waste (non-hazardous; solid)	unknown	Solid	May be Suitable for Use
Antimony pentachloride	7647-18-9	Liquid	>480
Asbestos (all forms)	1332-21-4	Solid	May be Suitable for Use
Benzene	71-43-2	Liquid	imm.
Benzyl alcohol	100-51-6	Liquid	>480
Beryllium	7440-41-7	Solid	May be Suitable for Use
Bisphenol-A diglycidyl ether	1675-54-3	Liquid	>480
Black liquor	308074-23-9	Liquid	>480
Bromopropane, 1-	106-94-5	Liquid	12
Butadiene, 1,3- (gas)	106-99-0	Vapor	>480
Butanol, n-	71-36-3	Liquid	>480
Butyl Cellosolve®	111-76-2	Liquid	>480
Butyraldehyde, n-	123-72-8	Liquid	41
Carbon disulfide	75-15-0	Liquid	imm.

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Caustic potash (45%)	1310-58-3	Liquid	>480
Caustic soda (42-50%)	1310-73-2	Liquid	>480
Chemidize 727 ND	mixture	Liquid	>480
Chlorine (gas)	7782-50-5	Vapor	>480
Chloroacetic acid (70%-80%)	79-11-8	Liquid	>480
Chloroacetone	78-95-5	Liquid	258
Chloroacetyl chloride	79-04-9	Liquid	120
Chloroaniline, 4- (70° C)	106-47-8	Liquid	imm.
Chloroaniline, p- (70° C)	106-47-8	Liquid	imm.
Chlorobenzene	108-90-7	Liquid	imm.
Chloroform	67-66-3	Liquid	imm.
Chlorosulfonic acid	7790-94-5	Liquid	>480
Chlorotoluene, o-	95-49-8	Liquid	13
Chromic acid (60-62%)	1333-82-0	Liquid	>480
Cresol, mixed isomers	1319-77-3	Liquid	69
Cresol, o-	95-48-7	Liquid	>480
Crude oil	8002-05-9	Liquid	>480
Cyclohexanone	108-94-1	Liquid	136
Cyclohexyl isocyanate	3173-53-3	Liquid	54
Dichloroaniline, 3,4- (liquid, 70° C)	95-76-1	Liquid	imm.
Dichloromethane	75-09-2	Liquid	imm.
Dichloropropene, 1,3-	542-75-6	Liquid	imm.
Diesel fuel	68334-30-5	Liquid	48
Diethyl-m-toluidine crude	91-67-8	Liquid	>480
Diethylamine	109-89-7	Liquid	12
Diethylaniline crude	91-66-7	Liquid	>480
Dimethyl sulfate	77-78-1	Liquid	>480
Dimethyl-acetamide, N,N-	127-19-5	Liquid	64
Dimethyldichlorosilane	75-78-5	Liquid	46

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	Number		(average, normalized to 0.1 ug/cm <sup>2</sup> /min)
/ Performance			
Dimethylene oxide (gas)	75-21-8	Vapor	imm.
Dimethylformamide, N,N-	68-12-2	Liquid	78
Dimethylhydrazine, 1,1-	57-14-7	Liquid	12
Dimethylmaleate	624-48-6	Liquid	>480
Dirt (general)	unknown	Solid	May be Suitable for Use
Disodium sulfide (60% w/w in water slurry)	1313-82-2	Liquid	>480
Epichlorohydrin	106-89-8	Liquid	15
Epoxyethane (gas)	75-21-8	Vapor	imm.
Ethanol	64-17-5	Liquid	>480
Ethyl Cellosolve®	110-80-5	Liquid	>480
Ethyl Cellosolve® acetate	111-15-9	Liquid	39
Ethyl acetate	141-78-6	Liquid	imm.
Ethyl alcohol	64-17-5	Liquid	>480
Ethyl ether	60-29-7	Liquid	imm.
Ethyl hydroxide	64-17-5	Liquid	>480
Ethylene dichloride	107-06-2	Liquid	imm.
Ethylene glycol	107-21-1	Liquid	>480
Ethylene oxide (gas)	75-21-8	Vapor	imm.
Ethylenediamine	107-15-3	Liquid	>480
Ferric chloride (50% w/w in water)	7705-08-0	Liquid	>480
Ferrous chloride (50% w/w in water)	7758-94-3	Liquid	>480
Fertilizer (general; solid form)	unknown	Solid	May be Suitable for Use
Fiberglass	unknown	Solid	May be Suitable for Use
Fluorobenzene	462-06-6	Liquid	imm.
Fluoroboric acid (48-50%)	16872-11-0	Liquid	>480
Formalin	mixture	Liquid	>480
Formic acid	64-18-6	Liquid	>480
Fuel oil	68476-30-2	Liquid	>480
Fungicide (general; solid form)	unknown	Solid	May be Suitable for Use

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Furfural	98-01-1	Liquid	227
Gasoline	86290-81-5	Liquid	imm.
Gasoline, E-10	308066-70-8	Liquid	16
Glutaric acid dialdehyde (50%)	111-30-8	Liquid	>480
Glutaric aldehyde (50%)	111-30-8	Liquid	>480
Gluteraldehyde (50%)	111-30-8	Liquid	>480
Green liquor	68131-30-6	Liquid	>480
HCN (Hydrogen cyanide) (liquid, 21° C)	74-90-8	Liquid	>480
Hazardous Particles (larger than 0.3 micron in size)	unknown	Solid	May be Suitable for Use
Hazardous Particles (larger than 1 micron in size)	unknown	Solid	May be Suitable for Use
Herbicide (general; solid form)	unknown	Solid	May be Suitable for Use
Hexamethyldisilazane	999-97-3	Liquid	>480
Hexamethylene diisocyanate	822-06-0	Liquid	>480
Hexamethylenediamine, 1,6- (50° C)	124-09-4	Liquid	80
Hexane, n-	110-54-3	Liquid	imm.
Hydrazine	302-01-2	Liquid	437
Hydriodic acid (47%)	10034-85-2	Liquid	>480
Hydrochloric acid (37%)	7647-01-0	Liquid	>480
Hydrocyanic acid (liquid, 21° C)	74-90-8	Liquid	>480
Hydrofluoric acid (48-51%)	7664-39-3	Liquid	>480
Hydrofluoric acid (70%)	7664-39-3	Liquid	imm.
Hydrogen chloride (gas)	7647-01-0	Vapor	>480
Hydrogen cyanide (liquid, 21° C)	74-90-8	Liquid	>480
Hydrogen fluoride (gas)	7664-39-3	Vapor	35
Hydrogen peroxide (30%)	7722-84-1	Liquid	>480
Insecticide (general; solid form)	unknown	Solid	May be Suitable for Use
Iodine (5% in carbon tetrachloride)	7553-56-2	Liquid	>480
Iron (II) chloride (50% w/w in water)	7758-94-3	Liquid	>480

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Iron dichloride (50% w/w in water)	7758-94-3	Liquid	>480
Iron trichloride (50% w/w in water)	7705-08-0	Liquid	>480
Iron(III) chloride (50% w/w in water)	7705-08-0	Liquid	>480
Isoamyl alcohol	123-51-3	Liquid	>480
JP-4 jet fuel	50815-00-4	Liquid	imm.
JP-8 jet fuel	94114-58-6	Liquid	58
Jet A fuel	8008-20-6	Liquid	58
KOH (Potassium hydroxide) (45%)	1310-58-3	Liquid	>480
Kerosene	8008-20-6	Liquid	58
Lead	7439-92-1	Solid	May be Suitable for Use
Lewsite (10 g/m <sup>2</sup> )	541-25-3	Liquid	>360
Lime	mixture	Solid	May be Suitable for Use
Lye (42-50%)	1310-73-2	Liquid	>480
MEK (Methyl ethyl ketone)	78-93-3	Liquid	imm.
Malathion (50% in water)	121-75-5	Liquid	>480
Mercuric chloride (sat. sol. in water)	7487-94-7	Liquid	>480
Methanesulfonic acid (70% in water)	75-75-2	Liquid	>480
Methanol	67-56-1	Liquid	>480
Methyl Cellosolve®	109-86-4	Liquid	89
Methyl Cellosolve® acetate	110-49-6	Liquid	260
Methyl bromide	74-83-9	Vapor	>480
Methyl chloride (gas)	74-87-3	Vapor	>480
Methyl ethyl ketone	78-93-3	Liquid	imm.
Methyl ethyl ketoxime	96-29-7	Liquid	>480
Methyl iodide	74-88-4	Liquid	imm.
Methyl isocyanate	624-83-9	Liquid	imm.
Methyl methacrylate	80-62-6	Liquid	23
Methyl salicylate	119-36-8	Liquid	>480
Methyl tert-butyl ether	1634-04-4	Liquid	>480

## Tychem® SL - Fabric Data

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			(average, normalized to 0.1 ug/cm <sup>2</sup> /min)  / Performance
Methyl-2-pyrrolidone, N-	872-50-4	Liquid	>480
Methylene bis (o-chloroaniline), 4,4'- (sat. sol. in methanol)	101-14-4	Liquid	>480
Methylene bis-cyclohexane diamine, 4,4'-	1761-71-3	Liquid	>480
Methylene chloride	75-09-2	Liquid	imm.
Mineral oil	8012-95-1	Liquid	>480
Mineral spirits	64475-85-0	Liquid	190
Mold spores	unknown	Solid	May be Suitable for Use
Morpholine	110-91-8	Liquid	153
Muriatic acid (37%)	7647-01-0	Liquid	>480
N,N-Dimethylformamide	68-12-2	Liquid	78
NaOH (Sodium hydroxide) (42-50%)	1310-73-2	Liquid	>480
Nitric acid (70%)	7697-37-2	Liquid	>480
Nitrobenzene	98-95-3	Liquid	102
Nitrogen dioxide	10102-44-0	Vapor	>480
Nitrophenol, o- (70° C)	88-75-5	Liquid	imm.
Nitrophenol, p- (60° C)	100-02-7	Liquid	imm.
Nitrotoluene, o-	88-72-2	Liquid	95
Non-Hazardous Particles (larger than 0.3 micron in size)	unknown	Solid	May be Suitable for Use
Non-Hazardous Particles (larger than 1 micron in size)	unknown	Solid	May be Suitable for Use
Oleum (20% free SO <sub>3</sub> )	8014-95-7	Liquid	>480
Oleum (27-33% free SO <sub>3</sub> )	8014-95-7	Liquid	450
PCB 1254 (50% in mineral oil)	mixture	Liquid	>480
PCB 1254 (90%)	11097-69-1	Liquid	>480
Pentanedial, 1,5- (50%)	111-30-8	Liquid	>480
Pesticide (general; solid form)	unknown	Solid	May be Suitable for Use
Phenol (60° C)	108-95-2	Liquid	
Phenyl glycidyl ether	122-60-1	Liquid	>480

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			(average, normalized to 0.1 ug/cm <sup>2</sup> /min)  / Performance
Phenylethanol, 1-	98-85-1	Liquid	>480
Phosphoric acid (85%)	7664-38-2	Liquid	>480
Phosphorus trichloride	7719-12-2	Liquid	imm.
Polychlorinated biphenyl 1254 (50% in mineral oil) mixture		Liquid	>480
Polychlorinated biphenyl 1254 (90%)	11097-69-1	Liquid	>480
Polymethylene polyphenyl-polyisocyanate	9016-87-9	Liquid	>480
Potash lye (45%)	1310-58-3	Liquid	>480
Potassium acetate (sat. sol. in water)	127-08-2	Liquid	>480
Potassium chromate (sat. sol. in water)	7789-00-6	Liquid	>480
Potassium hydroxide (45%)	1310-58-3	Liquid	>480
Propyl bromide, 1-	106-94-5	Liquid	12
Propylbromide, n-	106-94-5	Liquid	12
Pyridine	110-86-1	Liquid	17
Radioactive particles	unknown	Solid	May be Suitable for Use
Sarin (10 g/m <sup>2</sup> )	107-44-8	Liquid	>60
Silicon tetrachloride	10026-04-7	Liquid	35
Sodium cyanide (sat. sol. in water)	143-33-9	Liquid	>480
Sodium disulfite (38% w/w in water)	7681-57-4	Liquid	>480
Sodium fluoride (sat. sol. in water)	7681-49-4	Liquid	>480
Sodium hydroxide (42-50%)	1310-73-2	Liquid	>480
Sodium hypochlorite (17%)	7681-52-9	Liquid	>480
Sodium metabisulfite (38% w/w in water)	7681-57-4	Liquid	>480
Sodium pyrosulfite (38% w/w in water)	7681-57-4	Liquid	>480
Sodium sulfide (60% w/w in water slurry)	1313-82-2	Liquid	>480
Styrene	100-42-5	Liquid	12
Sulfur dioxide	7446-09-5	Vapor	>480
Sulfur mustard (10 g/m <sup>2</sup> )	505-60-2	Liquid	180
Sulfuric acid	7664-93-9	Liquid	>480
Tar balls	unknown	Solid	May be Suitable for Use

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			(average, normalized to 0.1 ug/cm <sup>2</sup> /min) / Performance
Tetrachloroethane, 1,1,1,2,-	79-34-5	Liquid	75
Tetrachloroethylene, 1,1,1,2,-	127-18-4	Liquid	imm.
Tetrafluoroethane, 1,1,1,2,-	811-97-2	Liquid	>480
Tetrahydrofuran	109-99-9	Liquid	imm.
Titanium tetrachloride	7550-45-0	Liquid	imm.
Toluene	108-88-3	Liquid	imm.
Toluene-2,4-diisocyanate	584-84-9	Liquid	>480
Toluidine, m-	108-44-1	Liquid	>480
Toluidine, o-	95-53-4	Liquid	255
Trichlorobenzene, 1,2,4-	120-82-1	Liquid	87
Trichloroethanol, 2,2,2-	115-20-8	Liquid	19
Trichloroethylene	79-01-6	Liquid	imm.
Trichlorophenylsilane	98-13-5	Liquid	>480
Trichlorosilane	10025-78-2	Liquid	30
Trichlorovinylsilane	75-94-5	Liquid	75
Triethylamine	121-44-8	Liquid	22
Trifluoroacetic acid	76-05-1	Liquid	>480
Trifluoromethane sulfonic acid	1493-13-6	Liquid	>480
Trimethyl phosphite	121-45-9	Liquid	imm.
VM&P Naphtha	8030-30-6	Liquid	18
VX Nerve agent (10 g/m <sup>2</sup> )	50782-69-9	Liquid	>480
Vinyl acetate	108-05-4	Liquid	82
Vinyl chloride	75-01-4	Vapor	>480
Vinylmagnesium chloride (15% in tetrahydrofuran)	3536-96-7	Liquid	imm.
Vinylpyridine, 4-	100-43-6	Liquid	15
White liquor	68131-33-9	Liquid	>480
n-Hexane	110-54-3	Liquid	imm.
n-Propylbromide	106-94-5	Liquid	12
trans-1,2-Dichloroethylene	156-60-5	Liquid	imm.

Hazard / Chemical Name	CAS Number	Phase	Breakthrough Time (average, normalized to 0.1 ug/cm <sup>2</sup> /min) / Performance
trans-Crotonaldehyde	123-73-9	Liquid	34

### DuPont Fabric Permeation Data - Testing Details

Permeation data obtained per ASTM F739. Normalized breakthrough times (the time at which the permeation rate is equal to 0.1 µg/cm<sup>2</sup>/min) reported in minutes. All liquid chemicals have been tested between approximately 20°C and 27°C unless otherwise stated. All chemicals have been tested at a concentration of greater than 95% unless otherwise stated. Chemical warfare agents (Lewisite, Sarin, Soman, Sulfur Mustard, Tabun and VX Nerve Agent) have been tested at 22°C and 50% relative humidity per military standard MIL-STD-282.

> Greater than.

"imm." Immediate; having a normalized breakthrough time of 10 minutes or less.

blank cells Fabric has not been tested. The fabric may or may not offer barrier.

\* Actual breakthrough time; normalized breakthrough time is not available.

\*\* Solid tested, vapor phase permeation measured.

"May be Suitable for Use" Permeation testing was not conducted.

### Special Warnings

- \*Serged and bound seams are degraded by some hazardous liquid chemicals, such as strong acids, and should not be worn when these chemicals are present.
- \*CAUTION: This information is based upon technical data that DuPont believes to be reliable. It is subject to revision as additional knowledge and experience are gained. DuPont makes no guarantee of results and assumes no obligation or liability in connection with this information. It is the user's responsibility to determine the level of toxicity and the proper personal protective equipment needed. The information set forth herein reflects laboratory performance of fabrics, not complete garments, under controlled conditions. It is intended for informational use by persons having technical skill for evaluation under their specific end-use conditions, at their own discretion and risk. Anyone intending to use this information should first verify that the garment selected is suitable for the intended use. In many cases, seams and closures have shorter breakthrough times and higher permeation rates than the fabric. Please contact DuPont for specific data. If fabric becomes torn, abraded or punctured, or if seams or closures fail, or if attached gloves, visors, etc. are damaged, end user should discontinue use of garment to avoid potential exposure to chemical. Since conditions of use are outside our control, we make no warranties, express or implied, including, without limitation, no warranties of merchantability or fitness for a particular use and assume no liability in connection with any use of this information. This information is not intended as a license to operate under or a recommendation to infringe any patent or technical information of DuPont or others covering any material or its use.  
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