

# DuPont™ Tychem® TK

CHEMICAL PROTECTIVE CLOTHING

## Our Highest Level of Protection



Tychem® TK is specifically developed for protection against toxic, corrosive gases, liquids and solid chemicals. This high-performance chemical barrier fabric is ideally suited for industrial, HazMat, and domestic preparedness applications. Tychem® TK offers proven protection with proven performance over a wide range of chemicals.

Tychem® TK exhibits outstanding chemical barrier properties. An extremely durable fabric that's puncture- and tear-resistant, its barrier has been tested against 260 challenge chemicals with no observed breakthrough after exposures of up to 8 hours. Excellent permeation data from stringent ASTM testing substantiates the uncompromised protection available with Tychem® TK.

Tychem® TK is available in totally encapsulated vapor protective Level A suits and liquid-splash protective Level B suits. It is also available in ensembles certified to the NFPA 1991 chemical/biological option. The lime-yellow color of Tychem® TK is highly visible in both bright and dim light, offering greater safety in emergency situations.

### NFPA 1991 Test Results (2005 Edition)

Fabric	Suit Seams	Visor	Visor Seams	Gloves
<b>ASTM F 1001</b>				
<b>Test Chemicals</b>				
Acetone	pass	pass	pass	pass
Acetonitrile	pass	pass	pass	pass
Anyhydrous ammonia gas	pass	pass	pass	pass
1,3-Butadiene gas	pass	pass	pass	pass
Carbon disulfide	pass	pass	pass	pass
Chlorine gas	pass	pass	pass	pass
Dichloromethane	pass	pass	pass	pass
Diethylamine	pass	pass	pass	pass
N,N-Dimethylformamide	pass	pass	pass	pass
Ethyl acetate	pass	pass	pass	pass
Ethylene oxide gas	pass	pass	pass	pass
n-Hexane	pass	pass	pass	pass
Hydrogen chloride gas	pass	pass	pass	pass
Methanol	pass	pass	pass	pass
Methyl chloride	pass	pass	pass	pass
Nitrobenzene	pass	pass	pass	pass
Sodium hydroxide, 50%	pass	pass	pass	pass
Sulfuric acid (conc.)	pass	pass	pass	pass
Tetrachloroethylene	pass	pass	pass	pass
Tetrahydrofuran	pass	pass	pass	pass
Toluene	pass	pass	pass	pass
<b>WMD Chemicals</b>				
Cyanogen chloride gas (CK)	pass	pass	pass	pass
Phosgene gas (CG)	pass	pass	pass	pass
Dimethyl sulfate (DMS)	pass	pass	pass	pass
Hydrogen cyanide gas (HCN)	pass	pass	pass	pass
Sarin (GB)*	pass	pass	pass	pass
Mustard (HD)**	pass	pass	pass	pass
<b>Liquefied Gases</b>				
Ammonia (-70°C)	pass	NA	pass	NA
Chlorine (-70°C)	pass	NA	pass	NA
Ethylene Oxide (-70°C)	pass	NA	pass	NA

\*Cumulative permeation <0.00945 µg/cm<sup>2</sup> in 60 minutes

\*\*Cumulative permeation <0.0011 µg/cm<sup>2</sup> in 60 minutes



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**Permeation Data for ASTM Recommended List of Chemicals  
for Evaluating Protective Clothing Materials (ASTM F1001)**

Chemical Name	Physical Phase	Average Normalized Breakthrough Time, min	Average Permeation Rate, $\mu\text{g}/\text{cm}^2/\text{min}$
Acetone	L	>480	<0.01
Acetonitrile	L	>480	<0.1
Ammonia	G	>480	<0.1
1,3-Butadiene	G	>480	<0.07
Carbon disulfide	L	>480	<0.02
Chlorine	G	>480	<0.02
Dichloromethane	L	>480	<0.03
Diethylamine	L	>480	<0.1
N,N-Dimethylformamide	L	>480	<0.01
Ethyl acetate	L	>480	<0.06
Ethylene oxide	G	>480	<0.1
n-Hexane	L	>480	<0.01
Hydrogen chloride	G	>480	<0.1
Methanol	L	>480	<0.1
Methyl chloride	G	>480	<0.02
Nitrobenzene	L	>480	<0.1
Sodium hydroxide, 50%	L	>480	<0.1
Sulfuric acid, 98%	L	>480	<0.1
1,1,2,2-Tetrachloroethylene	L	>480	<0.01
Tetrahydrofuran	L	>480	<0.04
Toluene	L	>480	<0.02

Index of Codes: > = greater than; < = less than; L = liquid; G = gas

Numbers reported are averages of samples tested by the ASTM F739 test method. Sample results do vary and therefore averages for these results are reported.

For a complete list of permeation data, please visit our website at [www.personalprotection.dupont.com](http://www.personalprotection.dupont.com)

### Typical Physical Properties of Tychem® TK

Basis Weight, ASTM D3776	11.4 oz/yd <sup>2</sup>
Thickness, ASTM D1117	25 mil
Ball Burst, ASTM D3787	205 lbf
Grab Tensile Strength, md/cd, ASTM D5034	164/159 lbf
Trap Tear, md/cd, ASTM D5733	69/69 lbf

These results are measured using the latest ASTM test methods. Results will vary due to the changes in test methods. A true test of performance is *in use*.

## DuPont Personal Protection

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**Product safety information is available upon request.** This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own determinations. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. It is the user's responsibility to determine the level of risk and the proper protective equipment needed for the user's particular purposes. This information may be subject to revision as new knowledge and experience becomes available. Since we 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 trademark or patent right.

**Warning:** Garments made of DuPont™ Tychem® TK should have slip-resistant or antislip materials on the outer surface of boots, shoe covers or other garment surfaces in conditions where slipping could occur. Tychem® TK is not flame-resistant and should not be used around heat, flame, sparks, or in potentially flammable or explosive environments.

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