Product line by hazard

When it comes to addressing a broad range of hazards in the workplace, specifiers have many product options from which to select. The process to understand which option matches a given situation can be confusing and taxing. DuPont Personal Protection has tried to reduce some of that burden by providing a complete line of products with supporting information to help guide specifiers through the selection process.

To get the most out of your personal protective equipment (PPE), it is necessary to understand where the products are intended to be used.

DuPont™ SafeSPEC™ is a sophisticated, easy-to-use interactive tool that provides suggestions for chemical protective clothing based on the user's hazard scenario.

Our database includes hundreds of chemicals, including warfare agents and the ASTM F1001 standard list of challenge chemicals. This tool can be accessed on our website at safespec.dupont.com. To provide a quicker overview of our products and where they are ideally suited for use, we developed the simple guides in this document. Our goal was to match the level of protection and value for a given exposure hazard.

DuPont™ Tyvek® and DuPont™ ProShield® products

Typical general industrial hazards/description/examples

Garment	Non-hazardous: Particles: General dirt & grime	Animal waste	Sanding & grinding waste	Aerosol: Spray paint	Light liquid splash*: Oil & grease	Lubri-cants	Fertilizer	Sewage	Hazardous: Particles: Fertilizer	Pesti-cides	Asbestos	Lead	Chro-mium	Berylium	Mold	Fiber-glass	Carbon	Radioactive particles	Aerosol: Isocyanate containing	Biohazards**	Flame resistance***
Tyvek® 400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	●	
Tyvek® 500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Tyvek® 500 HV	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Tyvek® 600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Tyvek® 800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
ProShield® 70	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
ProShield® 60	●	●	●	✓	✓	✓	✓	✓	●	●	●	●	●	●	●	●	●	●	✓	●	
ProShield® 50	●	●	●	✓	✓	✓	✓	✓	●	●	●	●	●	●	●	●	●	●			
ProShield® 30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
ProShield® 10	●	●	●	●	●	●	●	●													
ProShield® 6 SFR	●	●	●	●	●	●															✓

✓ Generally preferred

● Acceptable for use

*Liquid barrier performance varies based on the amount of liquid that may get on the garment, the length of time the liquid is on the garment, applied pressure and certain physical properties of the liquid. Tyvek® and ProShield® garments are not appropriate if during use they are getting wet (liquid is dripping or running, or it is wet to the touch) or if spotting is observed on skin or garments worn under the protective garment. 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. Tyvek® 600 and Tyvek® 500 garments use a special type of Tyvek® fabric, which has different physical properties and improved chemical resistance properties when compared to fabric used in standard Tyvek® garments. Additionally, the seams used in standard Tyvek® garments are different than the seams for Tyvek® 600 and Tyvek® 500 garments. Tyvek® 600 garments offer seams that are sewn and then taped, and Tyvek® 500 garments offer external serged seams, where the seam thread is visible on the outside of the garment. Tyvek® 500 and Tyvek® 600 offer improved liquid barrier, but may not be appropriate if spotting is observed on the skin or garments worn under the protective garment. In applications where a higher liquid barrier is needed, consider DuPont™ Tychem® 2000 and Tychem® 4000 garments with taped seams.

**Biohazards have a variety of classification methods. These products (garments or fabrics) have been tested to the following standards, including but not limited to AATCC 127 (Tyvek® 400), EN 14126 (Tyvek® 500 HV, Tyvek® 500, Tyvek® 600, Tyvek® 800), ASTM F1670 (ProShield® 60) and ASTM F1671 (Proshield® 60, ProShield® 70). Visit our website for specific testing data.

***ProShield® 6 SFR garments offer secondary flame resistance and are to be worn over primary flame-resistant garments such as DuPont™ Nomex® Essential (Nomex® IIIA).

It is the user's responsibility to determine the nature and level of hazard 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 information 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 penetration rates than the fabric. Please contact DuPont for specific data. If the garment becomes torn, abraded or punctured, end user should discontinue use of garment to avoid potential exposure.

Latex statement: As of January 1, 2006, DuPont production specifications exclude use of components containing natural rubber latex in the manufacture of DuPont™ Tyvek® IsoClean® and DuPont™ ProClean® garments.

Tyvek® 500, Tyvek® 600 and Tyvek® 800 contain natural rubber latex which may cause allergic reactions in some sensitized individuals. Anyone who begins to exhibit an allergic response during the use of DuPont products should immediately cease using these products and should also be reported to DuPont at 1-800-441-3637 (outside the U.S. 1-302-774-1139).

WARNING: Tyvek®, ProShield®, and most Tychem® garments, including Tychem® 2000 Tape, should not be used around heat, flames, sparks or in potentially flammable or explosive environments.

Only Tychem® 6000 FR and Tychem® 10000 FR garments are designed and tested to help reduce injury during escape from a flash fire. ProShield® 6 SFR and Tychem® 2000 SFR garments offer secondary flame resistance and are designed to be used over primary flame-resistant garments, included but not limited to, Nomex® Essential (Nomex® IIIA) or Nomex® Comfort garments. In addition, for ProShield® 6 SFR and Tychem® 2000 SFR hooded garments, primary flame-resistant hood/balaclava should be worn. Users of Tychem® 10000 FR, Tychem® 6000 FR, Tychem® 2000 SFR, and ProShield® 6 SFR garments should not knowingly enter an explosive environment. Consult the Tychem® User Manual, located on our website, for instructions on proper use, care and maintenance of your Tychem® garments.

ProShield® 6 SFR and Tychem® 2000 SFR coveralls provide only secondary flame-resistant protection. They must always be worn over an appropriate primary flame-resistant garment and primary flame-resistant hood/balaclava in an environment that needs flame protection, along with other personal protective equipment that protects your face, hands and feet.

Do not wear non-flame-resistant garments in potentially flammable or explosive environments. Instead, consider use of flame-resistant or secondary flame-resistant garments, which must be worn over primary flame-resistant garments.

Garments should have slip-resistant or anti-slip materials on the outer surface of boots, shoe covers or other garment surfaces in conditions where slipping could occur. Some Tychem® garments have attached socks made of the garment material. These attached socks must be worn inside protective outer footwear and are not suitable as outer footwear. These attached socks do not have adequate durability or slip resistance to be worn as the outer foot covering.

Tyvek® coveralls and ProShield® 60 coveralls can be considered for use with the appropriate respirators and other suitable PPE to minimize contact with isocyanate paint aerosols. Tyvek® garments are not appropriate if they are getting wet (paint is dripping or running, or wet to the touch) or if spotting is observed on skin or garments worn under the coveralls. Tychem® aprons and smocks are available for situations where prolonged liquid exposure may be limited to the front of the torso and/or arms of the wearer. These aprons and smocks can be worn with Tyvek® to provide localized protection while limiting the level of thermal discomfort.

DuPont™ Tychem® chemical protection products

Garment	Typical chemical hazards/examples: Hazardous dry powders & solids — Dry pharma chemicals	Bloodborne pathogens & biohazards — Blood, saliva, human excrement	Light chemical splash & aerosols — Inorganic acids and bases, salts	Moderate liquid chemical splash — Organics, solvents	Potential flash fire exposure & liquid organic chemicals — Meth-amphetamine	Heavy liquid chemical splash (toxics & corrosives) — Known carcinogens	ChemBio & warfare agents — Sarin, mustard, VX nerve agent	Chemical vapors & gases (toxics & corrosives) — Chlorine, anhydrous ammonia	NFPA ensembles: 1991 Flash fire option	1991 Liquid gas option	1992	1994 Class 2	70E Cat 2
Tychem® 2000	✓	✓	✓*										
Tychem® 2000 SFR	✓	✓	✓										
Tychem® 4000	✓	✓	✓*	●									
Tychem® 5000	●	✓	●	✓			●						
Tychem® 6000	●	✓	●	✓			✓				✓		
Tychem® 6000 FR	●	✓	●	✓	✓		✓				✓		✓
Tychem® Responder® CSM	●	●	●	✓		✓	✓	✓					
Tychem® 10000	●	●	●	✓		✓	✓	✓				✓	
Tychem® 10000 FR	●	●	●	✓	✓	✓	✓	✓	✓**	✓			

✓ Generally preferred

● Acceptable for use

*Serged and/or bound seams are degraded by some hazardous liquid chemicals, such as strong acids, and should not be worn when these chemicals are present.

**Tychem® 10000 FR 600T and Tychem® 10000 600T/601T have NFPA 1991 flash fire option.

WARNING: Tyvek®, ProShield®, and most Tychem® garments, including Tychem® 2000 Tape, should not be used around heat, flames, sparks or in potentially flammable or explosive environments.

Only Tychem® 6000 FR and Tychem® 10000 FR garments are designed and tested to help reduce injury during escape from a flash fire. ProShield® 6 SFR and Tychem® 2000 SFR garments offer secondary flame resistance and are designed to be used over primary flame-resistant garments, included but not limited to, Nomex® Essential (Nomex® IIIA) or Nomex® Comfort garments. In addition, for ProShield® 6 SFR and Tychem® 2000 SFR hooded garments, primary flame-resistant hood/balaclava should be worn. Users of Tychem® 10000 FR, Tychem® 6000 FR, Tychem® 2000 SFR, and ProShield® 6 SFR garments should not knowingly enter an explosive environment. Consult the Tychem® User Manual, located on our website, for instructions on proper use, care and maintenance of your Tychem® garments.

ProShield® 6 SFR and Tychem® 2000 SFR coveralls provide only secondary flame-resistant protection. They must always be worn over an appropriate primary flame-resistant garment and primary flame-resistant hood/balaclava in an environment that needs flame protection, along with other personal protective equipment that protects your face, hands and feet.

Do not wear non-flame-resistant garments in potentially flammable or explosive environments. Instead, consider use of flame-resistant or secondary flame-resistant garments, which must be worn over primary flame-resistant garments.

Garments should have slip-resistant or anti-slip materials on the outer surface of boots, shoe covers or other garment surfaces in conditions where slipping could occur. Some Tychem® garments have attached socks made of the garment material. These attached socks must be worn inside protective outer footwear and are not suitable as outer footwear. These attached socks do not have adequate durability or slip resistance to be worn as the outer foot covering.

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, electric arc and mechanical hazards.

safespec.dupont.com

Certified Industrial Hygienist team

A DuPont Certified Industrial Hygienist can conduct a job hazard assessment to help you determine the best DuPont garment for a specific hazard.

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Visit safespec.dupont.com to determine the most appropriate DuPont protective garments for your chemical hazard.

This information is based upon technical data that DuPont believes to be reliable. It is subject to revision as additional knowledge and experience become available. 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. This information is intended for use by persons having the technical expertise to undertake evaluation under their own specific end-use conditions, at their own discretion and risk. Anyone intending to use this information should first check that the garment selected is suitable for the intended use. The end-user should discontinue use of garment if fabric becomes torn, worn or punctured, to avoid potential chemical exposure. Since conditions of use are beyond our control, DUPONT MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE 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 trademark, patent or technical information of DuPont or other persons covering any material or its use.