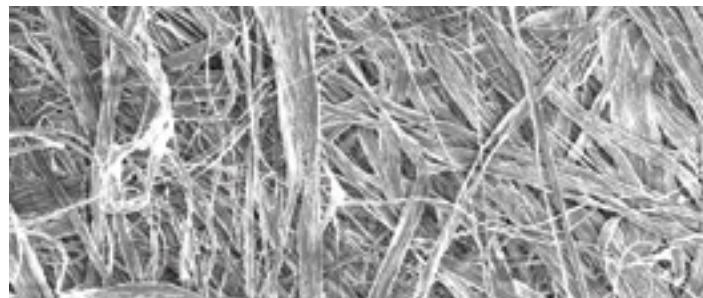


Tyvek® IsoClean® frequently asked questions

What is Tyvek®?

Tyvek® is a flashspun high-density polyethylene fabric that provides an ideal balance of protection, durability and comfort. Made only by DuPont, Tyvek® is a much lighter material than some grades of spunbond meltblown spunbond (SMS) and microporous film (MPF) used in controlled environments. Tyvek® fabric is an inherent barrier to small-sized hazardous particles due to the tortuous path created by this unique fabric structure. Protection is built into the fabric itself. There are no films or laminates to abrade or wear away. In fact, abrasion tests prove the Tyvek® barrier is more durable than MPF fabrics when tested for hydrostatic resistance.



Magnified view of Tyvek®



Tyvek® is tough,
yet lightweight
and soft.



Tyvek® offers an ideal balance
of protection, durability
and comfort.



Tyvek® acts as a breathable
barrier against particles
and bacteria.



Tyvek® is resistant to
aqueous liquids and
liquid aerosols.

What class cleanrooms are Tyvek® IsoClean® garments suitable for?

Tyvek® IsoClean® garments are suitable for ISO Classes 4-9 (former Federal Standard 209E classes 10-100,000) cleanrooms, depending on the garment design and processing, as well as the needs of specific applications. Clean-processed and bound seam garments offer the highest level of contamination control and should be used in more critical applications. Sterile garments are available if required. It is the end-user's responsibility to determine the appropriate garment for a given application.



How are garments for controlled environments processed and packaged?

Non-Sterile garments are available in:

Bulk (option code OB or OO)

Case quantities are packed in a cardboard case with two polyethylene liners.

Clean-Processed (OC option)

Garments are specially processed to help minimize particle shedding and individually packaged in an ISO Class 4 cleanroom. Garments are classified as Category I for Helmke garment cleanliness, which measures particle shedding. The case quantity is packaged in a cardboard case with two polyethylene liners.

Sterile garments are available in:

Sterile (Option code OS or TS)

Garments are folded to aid aseptic donning and individually packaged. The case quantity is packaged in a cardboard case with two polyethylene liners. Garments are folded and individually packaged in an ISO Class 5 cleanroom (see garment data sheet). Sterility is achieved by gamma irradiation. Irradiation dosage is validated in accordance with ISO 11137 for a sterility assurance level (SAL) of 10^{-6} . Garments available with the TS option code are folded and double-bagged individually.

Clean-Processed and Sterile (Option code CS)

Garments are specially processed to help minimize particle shedding, then folded to aid aseptic donning and individually packaged in an ISO Class 4 cleanroom. Garments are classified as Category I for Helmke garment cleanliness which measures particle shedding. The case quantity is packaged in a cardboard case with two polyethylene liners. Sterility is achieved by gamma irradiation. Irradiation dosage is validated in accordance with ISO 11137 for a sterility assurance level (SAL) of 10^{-6} .

What is the expiration date of sterile garments?

Sterile items are generally considered to remain sterile as long as the package integrity has not been compromised (no breach of package or seals). Aging studies indicate that Tyvek® IsoClean® garments have a sterility expiration date of at least 5 years when stored in original packaging under proper storage conditions. DuPont suggests that non-sterile Tyvek® IsoClean® garments be used within 5 years of receipt.

Are certificates of sterility available for Tyvek® IsoClean® garments?

A certificate of sterility is provided with each case of sterile garments. Copies of certificates of sterility are available at www.dupont.com/certificate-of-sterility.html.

Why do Tyvek® IsoClean® garments have an odor after gamma sterilization?

In general, sterilized garments in the industry have an odor. Tyvek® IsoClean® garments that have been sterilized using gamma radiation will sometimes exhibit a distinct odor, particularly when the packaging is first opened. This odor is expected, normal and quickly dissipates.



Are Tyvek® IsoClean® garments antistatic or static dissipative?

The fabric used to make Tyvek® IsoClean® garments is treated with a topical antistatic agent to help minimize static buildup and reduce nuisance garment cling. The topical antistat is water soluble, so antistatic performance is reduced in clean-processed garments. Sterilization may also impact antistatic performance. In situations where static dissipation level is a critical performance property, end-users should evaluate the performance of their entire ensemble, as worn, including outer garments, inner

garments, footwear and other personal protective equipment (PPE). In order for any garment system to be static dissipative, it must be able to drain a charge buildup through proper grounding devices, including, but not limited to, workstation grounding clips or static-dissipative floors.

However, in the case of explosive or flammable atmospheres, even if steps are taken to manage static formation and dissipate static charge, the risk of severe injury remains if an uncontrolled or accidental ignition occurs. Do not wear Tyvek® IsoClean® protective garments in potentially flammable or explosive atmospheres. Do not knowingly enter an environment in which the concentration of flammable gas is within flammable or explosive limits while wearing a Tyvek® IsoClean® garment. If you determine that you are in a potentially flammable or explosive environment, retreat immediately.

How should Tyvek® IsoClean® garments be stored?

Store Tyvek® IsoClean® garments in a cool, dark, dry location free of dirt and insects. Sunlight, ozone, high temperatures (>120 °F; 49 °C), vehicle exhaust fumes, compression under heavy weights and sharp edges or projections are some conditions known to degrade the materials in these garments. These factors should be considered when evaluating the long-term life of storage of Tyvek® and Tyvek® IsoClean® garments.



At what temperatures would Tyvek® melt?

Tyvek® fabric melts at 275 °F (135 °C). Tyvek® IsoClean® garments are not flame resistant or flame retardant and should not be used around heat, flame, sparks or in potentially flammable or explosive environments.

Are Tyvek® IsoClean® garments silicone free?

All DuPont™ Tyvek® IsoClean® garments are manufactured under specifications that do not contain silicone or silicone oils. Tyvek® IsoClean® shoe covers with skid-resistant material on the soles, or Tyvek® IsoClean® garments with attached skid-resistant shoe covers might contain silicone in the sole substrate. This includes styles IC108, IC444, IC447, IC451, IC457, IC458, IC461. End users who are consuming these styles and who have concerns about silicone contamination should conduct their own testing to ensure they are suitable for their application(s).

Are Tyvek® IsoClean® garments latex free?

After January 2023 all DuPont Personal Protection product styles are manufactured under specifications that exclude components containing natural rubber latex.

Tyvek® 500, Tyvek® 600, Tyvek® 800 products manufactured before January 2023 did 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. The incident should also be reported to DuPont at +1 (888)-439-2988 so that an investigation can be initiated.

Are Tyvek® IsoClean® garments water repellent?

Tyvek® IsoClean® brand garments offer limited splash protection, resist water penetration, are nonabsorbent and have equal strength wet or dry. Tyvek® IsoClean® garments are not recommended for protection from liquid hazardous chemicals; if protection from liquid hazardous chemicals is needed, consider the DuPont™ Tychem® or DuPont™ Tyvek® 500, 600 or 800 products available at safespec.dupont.com.

Can garments made of Tyvek® be recycled?

Yes, non-contaminated Tyvek® IsoClean® garments used in cleanroom operations can be recycled for non-hazardous applications. Tyvek® is made of HDPE and products made of 100% Tyvek® material can be recycled at facilities that recycle flexible HDPE materials. Recycling facilities for Tyvek® may not exist in your area. Contact DuPont Protective Apparel Customer Service at 1-800-931-3456 for information on the [Tyvek® Protective Apparel Recycling Program](#).



How can Tyvek® IsoClean® garments be disposed of?

If not contaminated, Tyvek® IsoClean® garments can be recycled. Contact DuPont Protective Apparel Customer Service at 1-800-931-3456 for information on the [Tyvek® Protective Apparel Recycling Program](#).



Tyvek® IsoClean® garments may be landfilled or incinerated in accordance with local regulations. Uncontaminated chemical protective garments may be incinerated in a facility that is capable of handling mixtures containing plastics. Likewise, an uncontaminated chemical protective garment may be buried in a facility that accepts plastic materials.

Contaminated garments that cannot be handled safely without protective equipment must be disposed of with other hazardous wastes, either through incineration or landfill, per local regulations. Before discarding, cut off a sleeve or a leg so the garments cannot be worn again as protective clothing.

What determines if the garment is contaminated?

The decision on whether or not a garment has been contaminated is made by local managers responsible for PPE based on an analysis of the incident in which the garment was used. This analysis may include exposure time, chemicals involved, level of exposure, proximity to the actual release, tasks performed and environmental monitoring in the area in which the garment was worn. Garments that are damaged, altered or show signs of contamination, such as discoloration, odor, stiffening or cracks, should not be used.



DuPont Personal Protection
Customer service 1 800 931 3456
safespec.dupont.com
personalprotection.dupont.com

DuPont Personal Protection
 DuPont™ Tyvek®

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 ASSUMES 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.

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