

Alcohol & Beverage



Personal protective solutions for Alcohol & Beverage industry applications



Because everyone has someone depending on them to get home safely

DuPont is more focused than ever on providing innovative protection solutions and expert technical support tailored to meet the specific needs of employees in the Alcohol & Beverage industry around the world.

Because their safety is our business, employees in the Alcohol & Beverage industry can rely on the world-class people, products and innovation that have made DuPont a trusted partner in personal protection.

With a wide range of industry-leading personal protective equipment (PPE) solutions and a global network of PPE specialists, technical experts and manufacturing, DuPont is uniquely suited to provide the protection and comfort every employee deserves to face a range of workplace hazards with confidence.

Our brands

Nomex®

DuPont™ Nomex® offers a tested and proven portfolio of protective solutions that continues to meet or exceed global standards for heat, flame and electric arc flash protection.*

Kevlar®

Gloves made with DuPont™ Kevlar® offer industry-leading cut and puncture protection, superior wet and dry grip while providing the dexterity and comfort employees want.

Tyvek®

DuPont™ Tyvek® garments provide employees with superior protection from small-sized hazardous particles, including lead, asbestos and mold. And because protection is built into the fabric itself, there are no films or laminates to abrade or wear away.

Tychem®

DuPont™ Tychem® garments deliver durable protection and offer a strong permeation barrier against a wide range of chemicals. The reliable fabric protects from acids and alkali chemicals, solvents, and chemical splashes while performing tasks in Alcohol & Beverage plants.

*For high arc-rated solutions, visit dpp.dupont.com for available Nomex® layering systems.

Are your employees really protected?

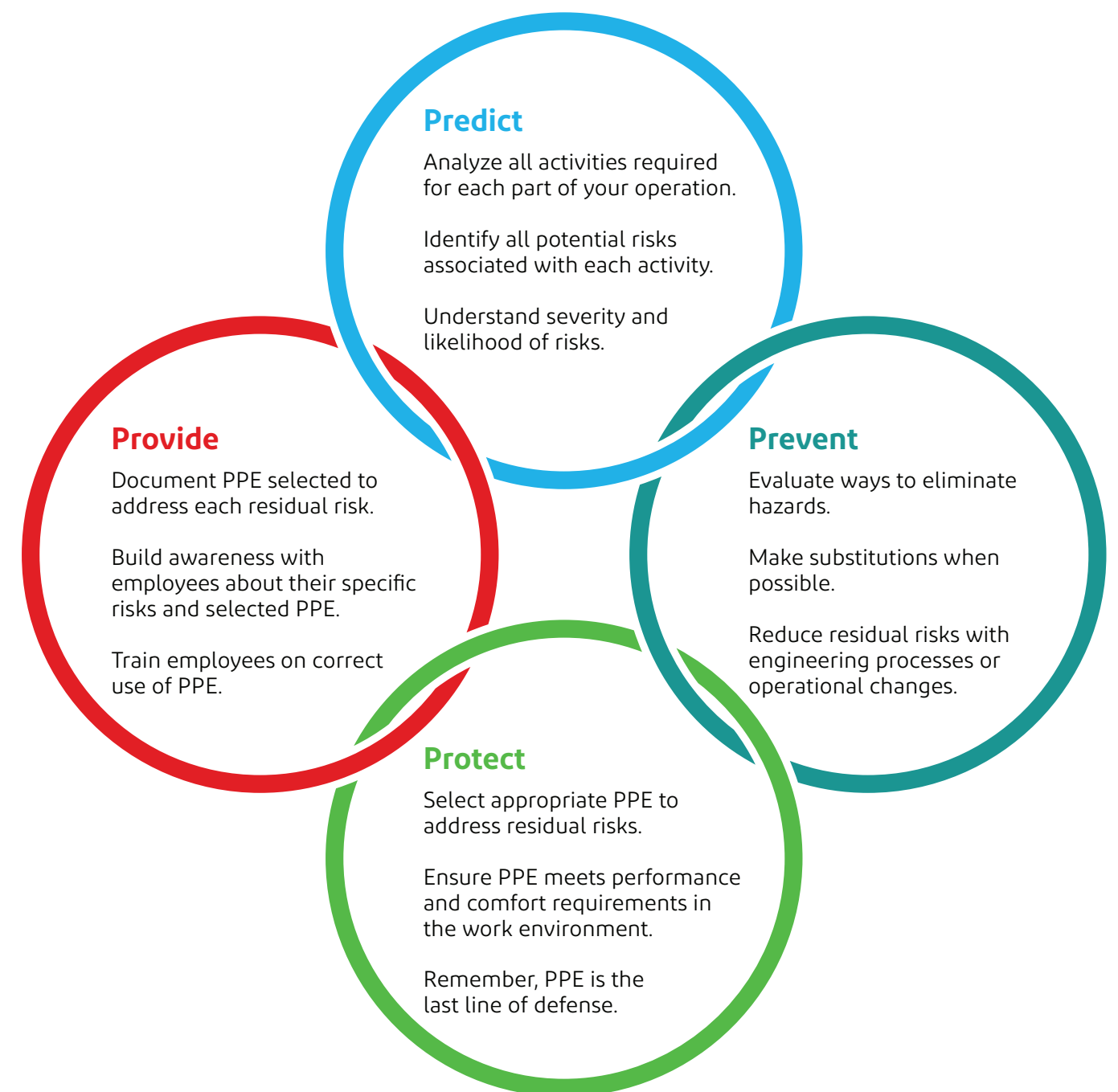


Employees in the Alcohol & Beverage industry face many on-the-job hazards, including cut hazards due to sharp edges and punctures while bottling; heat contact; exposure to acids and alkali chemicals; flash fire; and exposure to hazardous gases, dust, and solvents—to name just a few.

Providing employees with the protection they need for the hazards they face is a major responsibility. DuPont Personal Protection has the in-depth knowledge, unparalleled expertise, and broad portfolio of PPE solutions to help keep your employees safe.

DuPont PPE solutions are designed to meet or exceed global standards for Mechanical protection, including EN388:2016, International Organization for Standardization (ISO), National Fire Protection Association (NFPA), ASTM International and American National Standards Institute (ANSI).

To help you in the decision-making process, from risk assessment through implementation, we recommend using the 4P methodology:



The preparation and bottling of alcoholic beverages is a series of intricate tasks

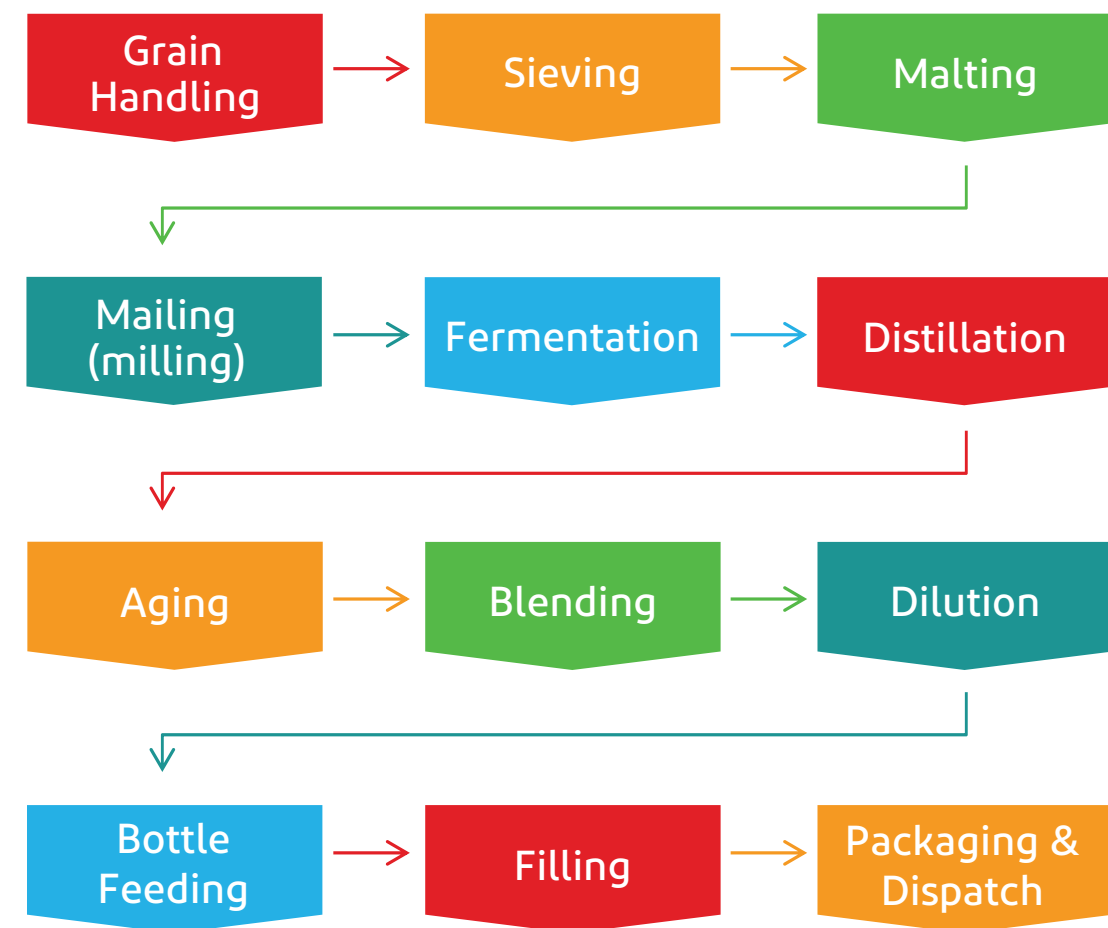
that require the workforce to be proficient, precise and protected. Grain handling, sieving, malting, milling, fermentation, distillation, aging, mixing, dilution, and packaging of alcoholic drinks are among the high-risk jobs, which expose employees to flash fires, a variety of toxic chemicals, and mechanical vulnerabilities.

The hazardous elements include inflammable raw materials, hot atmosphere, acids and alkali chemicals, evaporating spirit, combustible liquids, and handling of bottles and wet surfaces. The Alcohol & Beverage industry workforce and emergency responders must be safely and appropriately protected to face unforeseen challenges.

DuPont collaborates with the health, safety, and environment (HSE) managers in the Alcohol & Beverage industry to address these hazards and ensure the security and protection of the workforce.

The safety range consists of Tyvek® garments for protection against fine particle and low-level liquid splashes; Tychem® garments for protection against acids and alkali; Nomex® garments for flash fire hazards; and Kevlar® gloves for protection against sharp edges of broken glass bottles during the bottling process in a wet/slippery environment.

DuPont specialists may also collaborate with the HSE manager to assist streamline the process of correctly matching PPE to the dangers that your workforce might encounter.



Protection for every task

DuPont products and PPE solutions are identified by our licensees' branded names.



Preparation

Tasks

- Grain handling
- Sieving
- Malting
- Mailing (Milling)

The Distilled Spirits Council of the United States (DISCUS) Fire Prevention Manual identifies grain dust as a potential hazard for flash fire. The grain dust cloud generated during preparation tasks can ignite on finding a source of heat or spark causing a flash fire. The risk gets magnified while working in a confined space.

Hazards

- Flash fire
- Abrasion hazards during grain transportation and handling



For a full list of PPE solutions, visit [SafeSPEC™](#).



Available PPE options

Flame-resistant (FR) garments



Nomex® IIIA

Excellent thermal protection against flash fire involving confined spaces and dust

- Inherently flame-resistant material protects from hazards associated with exposure to flash fires
- Excellent abrasion, tear, and chemical resistance
- Extreme durability, and cost-effectiveness than other protective fabrics
- Ultimate blend of breathability and thermal protection for everyday use



NFPA 2112 NOTE: Certifications listed here are for Nomex® Comfort fabric; consult with garment manufacturer for garment certifications. For a full list of PPE solutions, visit [SafeSPEC™](#).



Fermentation

Tasks

Cleaning tanks

After the fermentation process is over, the tanks and adjacent area needs to be cleaned. The chemical exposure can happen during cleaning activities.

Hazards

Chemical splash and burn

Available PPE options

Non-FR/chemical-protective garments



Tyvek® 400

An ideal balance of protection, durability, and comfort for tank cleaning activities

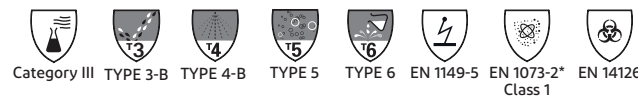
- Non-woven material that protects against particles (down to 1.0 micron)
- Delivers consistently better protection even after wear and abrasion
- Flashspun high-density polyethylene with superior durability over microporous film fabrics
- Comfort-fit design that enables a greater range of movement while performing tasks



Tychem® 2000

Reliable protection against biohazards and inorganic chemicals at water softening unit

- Utilizes the strength of Tyvek® fabric and polyethylene coating
- Effective protection against mist, spray, and light chemical splashes
- Lightweight durable fabric offers permeation barrier protection for at least 30 minutes
- Seams, stitched and over-taped with barrier tape, providing protection



Distillation & Aging

Tasks

Distillation

Aging

Increasing the ethanol concentration, and spirit evaporating from casks create an air rich in flammable vapor—escalating the possibility of a flash fire.

Hazards

Flash fire

Available PPE options

Flame-resistant (FR) garments



Nomex® IIIA

Excellent thermal protection against flash fire

- Inherently flame-resistant material protects from hazards associated with exposure to flash fires
- Excellent abrasion, tear, and chemical resistance
- Extreme durability, and cost-effectiveness than other protective fabrics
- Ultimate blend of breathability and thermal protection for everyday use



NFPA 2112 NOTE: Certifications listed here are for Nomex® Comfort fabric; consult with garment manufacturer for garment certifications. For a full list of PPE solutions, visit SafeSPEC™.



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Blending & Dilution

Tasks

Blending
Dilution

These tasks performed for consistency and desired alcohol content involve large quantities of flammable material and a risk of flash fire

Hazards

Flash fire



For a full list of PPE solutions, visit SafeSPEC™.



Available PPE options

Flame-resistant (FR) garments



Nomex® IIIA

Excellent thermal protection against flash fire

- Inherently flame-resistant material protects from hazards associated with exposure to flash fires
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Bottling Operation

Tasks

Bottle segregation
Feeder
Filler
Packaging
Dispatch

The workforce comes in contact with wet/slippery/broken glass bottles

Hazards

Cut

Puncture

Abrasion



For a full list of PPE solutions, visit SafeSPEC™.



Available PPE options



Kevlar® Essential 410 WL

Cut-resistant glove with blue wrinkled high abrasion resistant latex palm coating for wet grip

- Superior protection against sharp edges of broken glass bottles
- Comfort with good air permeation and softness
- Excellent dexterity & flexibility
- Reliable gripping under dry and wet condition
- Longer cuff for better wrist protection



X2XXXX

3542

3X42C



Kevlar® Essential 430 FN

Cut-resistant glove with black foam nitrile palm coating

- Exceptional resistance against sharp edges of broken glass bottles
- Superior wearer comfort with good air permeation and softness
- Good dexterity & flexibility
- Excellent gripping under dry and wet condition
- Longer cuff for better wrist protection



X1XXX

4441

4X42B



Kevlar® Essential Cool 450 PU

Cut-resistant glove with grey PU palm coating

- Superior protection against sharp edges of broken glass bottles
- Cool liner and good air permeation for comfort
- Excellent dexterity & flexibility for efficient functioning
- Superior gripping under dry condition
- Longer cuff for better wrist protection



X1XXXX

3542

4X44C



Kevlar® Essential Cool 440 PU

Affordable rugged glove for performance and durability

- Thin glove liner for effortless dexterity
- Durable and long-lasting with innovative coating
- Excellent abrasion performance along with protection against cuts and punctures
- 20,000 abrasion cycles for exceptional strength



20000 ABR Cycles

4543

4X43C



Kevlar® 550 SL Sleeves

14-inch/18-inch washable sleeves protect against cuts

- Inherently superior material protects from sharp edges of broken glass bottles.
- High Dexterity for functional comfort
- Used while performing extreme tasks in Automotive, Construction, Emergency Response, Manufacturing, Metal Handling, Mining, Oil & Gas, Pharma, Warehousing and Material Transfer, and Waste Management along with Alcohol & Beverage industry
- Long-life Durability despite the use and number of washes



X1XXX

134X

13XXC



Chemical Risk

Tasks

Water softening

Loading/unloading operations during grain neutral spirit transportation

Acids and alkali are used in the water softening plant. The workforce at the water softening plant needs a chemical protective suit.

Loading and unloading of Spirit, always have a risk of flash-fire. The workforce involved in this activity should always wear FR clothing.

Hazards

Chemical splash and contact with skin

Flash fire



For a full list of PPE solutions, visit SafeSPEC™.



Available PPE options

Non-FR/chemical-protective garments



Tyvek® 400

An ideal balance of protection, durability, and comfort for tank cleaning activities

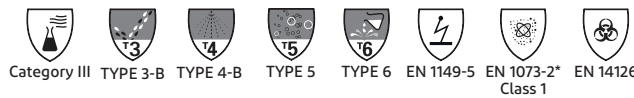
- Non-woven material that protects against particles (down to 1.0 micron)
- Delivers consistently better protection even after wear and abrasion
- Flashspun high-density polyethylene with superior durability over microporous film fabrics
- Comfort-fit design that enables a greater range of movement while performing tasks



Tychem® 2000

Reliable protection against biohazards as well as acids and alkali chemicals at the water softening unit

- Utilizes the strength of Tyvek® fabric and polyethylene coating
- Effective protection against mist, spray, and light chemical splashes
- Lightweight durable fabric offers permeation barrier protection for at least 30 minutes
- Seams, stitched and over-taped with barrier tape, providing protection



Nomex® IIIA

Ultimate protection during loading/unloading of Grain Neutral Spirit (GNS) transportation

- A blend of 93% Nomex® with 5% Kevlar® and 2% antistatic fiber for protection against flash fire
- The innovative fabric expands to form a stable and inert barrier between the fire and skin
- Durable and resistant to abrasion, tears, and chemicals
- Superior comfort, fit with lighter weights, wicking finishes, and breathability



NFPA 2112 NOTE: Certifications listed here are for Nomex® Comfort fabric; consult with garment manufacturer for garment certifications. For a full list of PPE solutions, visit SafeSPEC™.



Emergency Response

Tasks

Firefighting

Rescue

Electrical maintenance

Fire and safety teams must be equipped with the right tools to protect themselves during emergencies

Hazards

Flash fire

Chemical spills

Electrical arc flash

Available PPE options



Tychem® 10000

Developed for protection against toxic, corrosive gases, liquids, and solid chemicals

- Double taped seams provide strong chemical resistance against heavy liquid splashes.
- The expanded Face shield provides a wide 220-degree viewing angle. EX Face shield is a three-layer laminate composed of 40 mil PVC/5 mil Teflon® /20 mil PVC
- Front entry and rear entry design
- Expanded back to accommodate self-contained air breathing apparatus (SCBA)
- Attached are internal gloves composed of five-layer laminate film for a broad range of chemical protection



Nomex® TurnOut Gear

Next-gen FR solutions

- Inherently heat- and flame-resistant fiber
- Lightweight, and exceptionally comfortable
- Higher air permeability helps reduce heat stress
- Thermal liners are thin, flexible, and highly breathable



Nomex® Essential Arc

Effective Electric Arc Protection

- A single-layer or multi-layer solution to meet the needs of an electrical professional
- Inherent flame-resistant properties that can't be washed out or worn away
- Lightweight, comfortable, highly breathable fabrics
- Tough, durable fabric with a longer lifespan for better value



NOTE: For additional high-arc rated solutions, consult use of layered solutions to address COVID-19 contamination concerns with high-arc suits to see currently available Nomex® layering systems. Certifications listed here are for Nomex® Essential Arc fabric; consult with garment manufacturer for garment certifications.



For a full list of PPE solutions, visit SafeSPEC™.





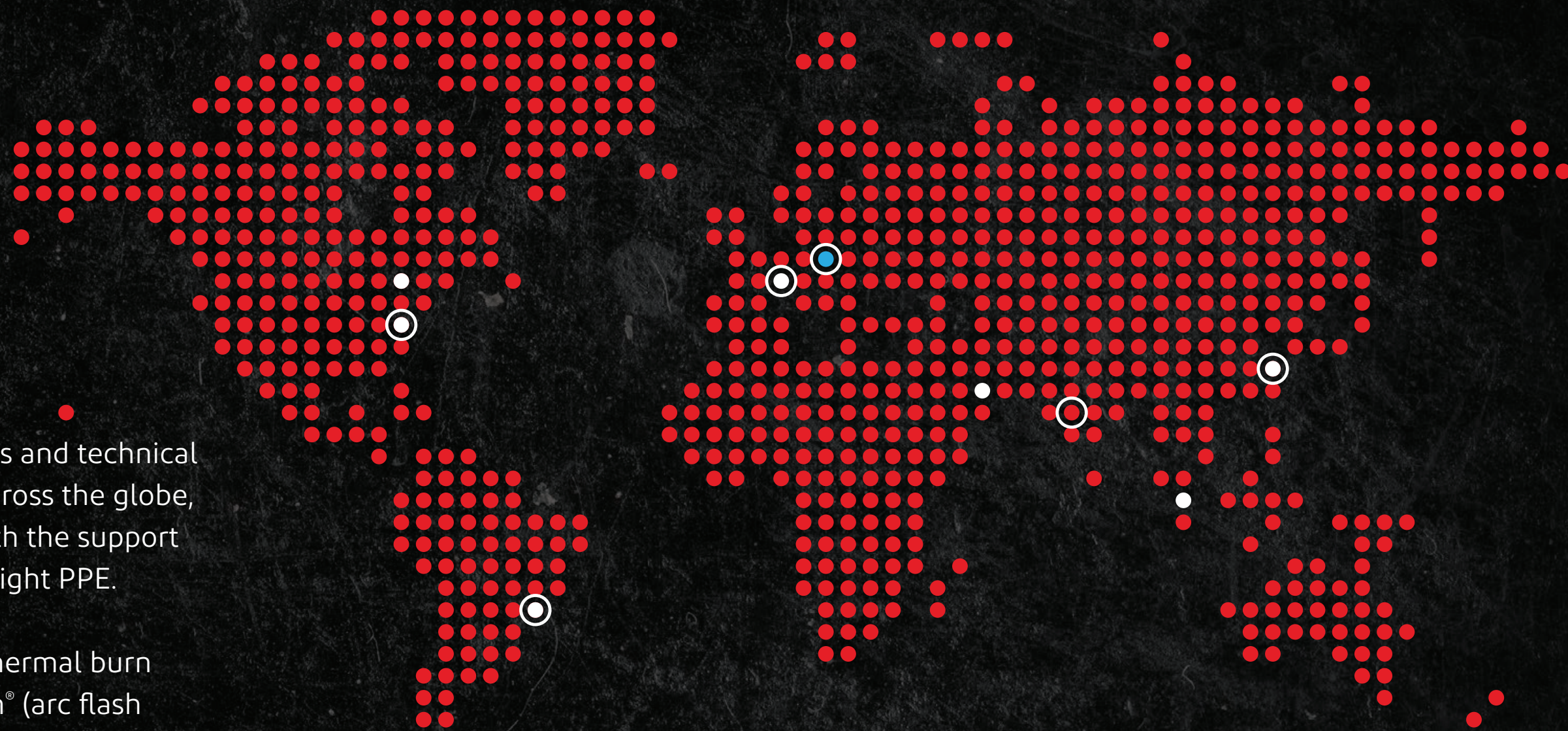
Protection
from the grain
dust to the
distillery

Global reach

With operations in 96 countries and technical centers staffed with experts across the globe, we are here to provide you with the support you need when choosing the right PPE.

Our Thermo-Man® (life-sized thermal burn injury evaluation) and Arc-Man® (arc flash injury evaluation) units provide compelling demonstrations that help educate industrial employees about the durability and heat, flame and electric arc resistance that DuPont Safety PPE delivers.

○ Technical centers ● Thermo-Man® Units ● Arc-Man® Units

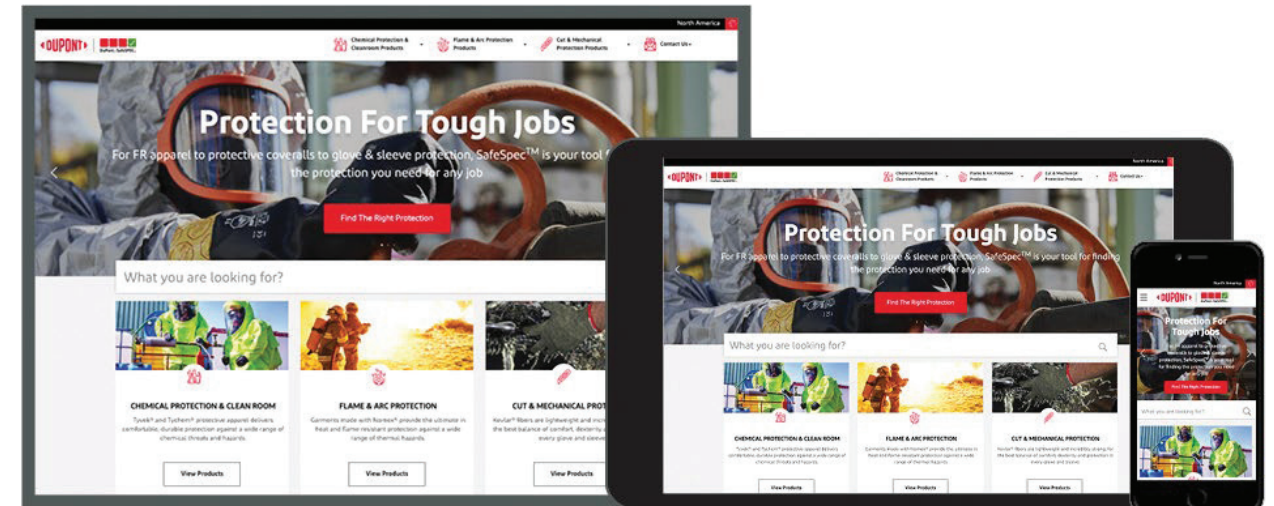


We're here to help

DuPont™ SafeSPEC™, 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™ has a full permeation test database and allows you to search by either hazard or industry to help you find the right protection for the job at hand.

safespec.dupont.co.in



<DUPONT>
Kevlar | **Nomex** | **Tyvek** | **Tychem**

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