

A person wearing a dark green Ansell AlphaTec 4000 hazmat suit, hood, and gloves. They are wearing a respirator with a large orange and black filter labeled 'pro2000'. They are holding a large, brown, corrugated flexible hose. The background shows a corrugated metal wall and blue industrial stairs.

Ansell

CHEMICAL

Hazards & Solutions

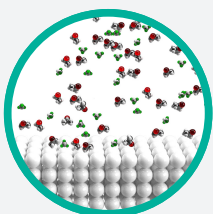
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The chemical industry is comprised of companies that produce industrial chemicals by converting raw materials into different products. It contributes \$5.7 trillion (7%) to the world's GDP. Did you know that there are over 159 million chemicals registered with CAS and approximately 10,000 new chemicals are added every day? The chemical landscape is constantly changing, and new chemical combinations can affect toxicity, permeation and a variety of other factors that may alter the effectiveness of personal protective equipment (PPE). There are 120 million workers in the chemical industry and many of them come in contact with significant hazards every day. It's critical to understand the complexities of new chemicals, chemical reactions and new chemical combinations to ensure safety in chemical manufacturing so that workers can be equipped with the most appropriate hand and body protection.

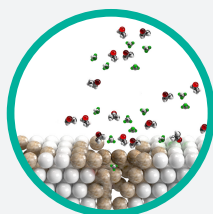
Chemical Interactions with PPE

When choosing the right chemical protection, it is important to understand how chemicals interact with different materials. These interactions fall under three main headings: permeation, degradation and penetration.



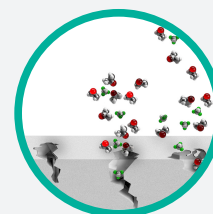
Permeation

The movement of a chemical through the barrier material at a molecular level. The rate or speed at which a chemical is able to permeate through a barrier is described as "breakthrough time", which is communicated in minutes of protection.



Degradation

The physical change in one or more properties of a barrier material due to contact with chemicals. Indicators include visible discoloration, elongation, burns or cracks in the surface.



Penetration

The movement of a chemical through pores, gaps in seams, pinholes or imperfections on a barrier material, commonly caused by defects or degradation.



There are 5 key questions which need to be answered in order to identify appropriate chemical protection solutions:

1

What is the chemical?

2

What is the CAS number?

3

Is it a liquid, solid or gas?

4

What is the concentration?

5

What is the application?

CHEMICAL HAZARDS & SOLUTIONS

Workers in chemical industries are exposed to hazards in a variety of ways. To understand the risks from exposure to chemicals, it is important to know the potential means for contamination, such as vapor, spray, splash and immersion; and the route of exposure to the worker, such as inhalation or skin absorption. Many studies from OSHA (Occupational Safety and Health Administration) have shown that absorption of chemicals through the skin can occur without being noticed by the worker. Additionally, many workers in the chemical industry encounter additional risks, beyond chemical exposure in their jobs while working with various tools, processes and applications. Ansell's world-leading portfolio of multi-hazard PPE and our expertise in chemical permeation knowledge can ensure workers in the chemical industry are kept safe.

HIGH CHEMICAL PROTECTION

Ansell offers PPE solutions designed to protect against the highest levels of risk from hazardous chemicals and biological agents in medium to heavy-duty applications. This type of PPE protects against liquid or strong jets of chemicals.



**AlphaTec®
02-100**

Offers extreme resistance against a wide range of chemicals, including biological hazards. Can be used in various spill and response kits, giving workers the highest level of chemical protection.



**AlphaTec®
58-535B**

Reliable liquid-proof chemical protection. ANSELL GRIP™ Technology is a coating treatment that minimizes the force required to grip dry, oily and wet tools or materials, relieving hand and arm strength caused by poor grip.



**AlphaTec®
58-735**

INTERCEPT™ Cut Resistance Technology provides protection against lacerations. Optimized fit that integrates the high-visibility cut liner into the nitrile shell, acting as an indicator when glove is cut and highlighting when chemical protection is compromised.



**AlphaTec®
87-118**

High resistance to water-based chemicals. Thicker black natural rubber latex glove with extra protection in heavy duty applications.



AlphaTec® 53-001

Multi-layer polymer design of nitrile/neoprene/nitrile layers provides chemical protection against a wide range of chemicals from acids and bases to hydrocarbons and organic solvents. MICROCHEM™ Chemical Barrier Technology provides superior protection for use in hazardous environments.



AlphaTec® 38-612

Provides the best resistance to the most aggressive chemicals with its combination of butyl and viton layers. Protects against hazardous chemicals such as aliphatic, halogenated and aromatic hydrocarbons as well as concentrated mineral acids.



AlphaTec® 38-514

The thinnest butyl glove providing the best resistance to the most aggressive chemicals with dexterity and comfort. Offers superior protection against aldehydes, ketones and esters as well as concentrated mineral acids.



**AlphaTec® 4000
STANDARD Model 111**

Engineered to provide an exceptional barrier against a wide range of organic and inorganic chemicals and biological agents.



**AlphaTec® 5000
STANDARD Model 111**

Engineered to protect with excellent protection and durability against a wide range of chemical hazards, and with outstanding permeation performance to numerous organic and inorganic chemicals, biological hazards and chemical warfare agents.



**MICROCHEM® 6000
Gas-Tight Model 803-GA1**

Protection against dangerous and toxic chemicals in either liquid or gaseous form. Level A suits where self-contained breathing apparatus (SCBA) is worn on the inside.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment. Or use our self-service AnsellGUARDIAN® Partner tool to search our extensive chemical permeation and degradation data and identify the appropriate hand and body protection for the chemicals you use.

LOW CHEMICAL PROTECTION

Ansell offers a large portfolio of protection solutions when a lower chemical protection is needed. Low chemical protection includes chemical resistant gloves and clothing designed to safeguard against splash or light sprays of chemicals or solid particles. This type of PPE is meant to be used in light duty applications.



AlphaTec®
37-300



AlphaTec®
37-310



AlphaTec®
37-320

AlphaTec® 37-300/310/320

Nitrile protection against light acids, greases, oils and liquids. Latex-free formulation provides all-day comfort and reduces the risk of allergies. Exceptional value.



MICROFLEX® 93-260

Thin, chemical-resistant disposable glove offers tough chemical protection and unparalleled comfort. Three-layer design provides exceptional protection against acids, bases and solids in a single use glove.



TouchNTuff® 92-600

The world's leading disposable glove for chemical splash protection. Strong and stretchy nitrile provides added durability.



AlphaTec®
04-002



AlphaTec®
04-003

AlphaTec® 04-002/003

PVC glove offering chemical resistance and superb oil resistant coating. Designed with special grip for confidence in dry, wet and oily applications.



AlphaTec® 1800 STANDARD Model 111

Breathable fabric protects from low hazard liquid spray and fine particulates. Contains bound seams for improved overall protection along with 3-piece hood and 2-way front zipper with re-sealable storm flap.



AlphaTec® 2000 STANDARD Model 111

Made from superior breathable microporous laminate technology to provide superior protection from low hazard liquid spray and fine particulates. Tunneled elasticated 3-piece hood, wrists and ankles help minimize the risk of linting and cross contamination.



AlphaTec® 2300 STANDARD Model 111

Lightweight and durable chemical protection against a range of inorganic liquid chemicals including acids and bases. Includes respirator fit hood and a zip flap with self-adhesive tape closure. Coverall, 3-piece hood, elasticated hood, waist, wrists and ankles. 2-way front zipper with resealable storm flap and finger loops.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment. Or use our self-service AnsellGUARDIAN® Partner tool to search our extensive chemical permeation and degradation data and identify the appropriate hand and body protection for the chemicals you use.

ERGONOMIC PROTECTION

Workers in chemical industries often need to make precise, repetitive movements that can cause strain to wrists, hands and fingers, leading to the risk of musculoskeletal injury. They may also have the need to wear protective body suits for a prolonged period of time. Ansell offers ergonomic solutions that ease musculoskeletal stress and enhance range of motion to reduce stress on joints, tendons and ligaments with Ansell's proprietary ERGOFORM™ Technology.



AlphaTec® 53-001

ANSELL GRIP™ Technology for the handling of wet or oily parts providing enhanced dexterity, grip and comfort.



AlphaTec® 58-535B

Enables users to handle wet or oily objects with less grip force and more control along with flexibility and dexterity to handle small objects thanks to ANSELL GRIP™ Technology. Shorter AlphaTec® 58-530B version available.



AlphaTec® 58-335

The AlphaTec® AQUADRI™ gloves address the most relevant need for workers' sweat reduction. Less sweat equals greater comfort and performance. Shorter AlphaTec® 58-330 version available.



MICROFLEX® XCEED™ XC-310

Extremely durable thin mil nitrile disposable glove for extra durability while maintaining tactility.



MICROFLEX® Ultraform™ UF-524

Comfortable, ultra-thin nitrile glove that offers affordable protection with unparalleled tactility.



MICROFLEX® Neogard™ C52

Neoprene material provides chemical splash protection with an exceptional grip in wet or dry conditions.



HyFlex® 11-931

Palm-dipped with ERGOFORM™ Technology minimizes the risk of hand fatigue and the development of cumulative trauma disorders.



HyFlex® 11-937

Three-quarter dipped with ERGOFORM™ Technology minimizes the risk of hand fatigue and the development of cumulative trauma disorders.



HyFlex® 11-939

Fully-dipped with ERGOFORM™ Technology minimizes the risk of hand fatigue and the development of cumulative trauma disorders.



HyFlex® 11-812

Patented knitted design allows the glove to easily tear at multiple high-risk areas to minimize the risk of entanglement in rotating tools. Provides excellent tactility to grab even the smallest parts.



AlphaTec® 1500 Model 101

Comfortable protection from hazardous particulates in general industrial environments. Air and water vapor permeable (breathable) fabric helps reduce the risk of heat stress.



AlphaTec® 1800 Comfort Model 195

Lightweight, breathable laminate technology designed to provide optimum balance between comfort and protection.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment.

HEAT PROTECTION

Exposure to heat creates significant danger for workers in chemical industries. Ansell's industry-leading chemical protection portfolio offers solutions following the appropriate standards when working in hot conditions with needed chemical resistance, while decreasing the risk of burn injuries.



AlphaTec® 58-535B

Nitrile glove that offers light contact heat resistance along with liquid-proof chemical resistance. Contact heat level 1 with protection up to 212°F/100°C.



AlphaTec® 08-352

Neoprene chemical work glove with rough finish and light contact heat resistance. Contact heat level 1 with protection up to 212°F/100°C.



AlphaTec® 19-024

Neoprene-coated glove with a double insulating liner that provides protection from intermittent contact with hot surfaces up to 356°F/180°C.



AlphaTec® 62-401

A comfortable 100% cotton liner glove with a natural rubber exterior coating that offers excellent hot thermal insulation. Contact heat level 1 with protection up to 482°F/250°C.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment.

COLD PROTECTION

Working in cold temperatures can cause hypothermia or dangerous body overcooling. There is also a risk of frostbite or freeze of the extremities (fingers and toes). The risk increases when temperatures go below 50°F/10°C. To equip workers to do their jobs effectively, Ansell offers chemical resistant solutions that also protect and perform in cold conditions.



AlphaTec® 62-401

A comfortable 100% cotton liner glove with a natural rubber coating that offers excellent cold thermal insulation.



AlphaTec® 23-202

Comfortable PVC glove designed to protect at low temperatures and warms the hands immediately after donning.



AlphaTec® 09-022

Special Hi-Lo insulated gauntlet permits intermittent handling in cold temperatures.



AlphaTec® 19-024

Neoprene glove with a double insulating liner to better resist cold environments (AlphaTec® 19-026 longer version).



ActivArm® 97-681

PVC coating provides grip and flexibility, even in the coldest temperatures. Soft and insulative acrylic interior provides industry leading comfort and warmth.



ActivArm® 23-700

Insulated winter glove with a turn-out barrier that prevents liquids from getting to the hand.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment.

CUT PROTECTION

These products are designed for jobs that require precision handling for workers exposed to cut risks from sharp tools or objects across a range of applications. They address ongoing needs for chemical protection and comfort with the added benefit of cut protection.



AlphaTec® 58-735

INTERCEPT™ Cut Resistance Technology provides protection against lacerations. High-visibility cut liner acts as an indicator for when glove is cut, highlighting when chemical protection is compromised.



EDGE® 48-929

Excellent for medium weight applications requiring cut resistance. Reliable combination of cut, grip and oil resistance.



HyFlex® 11-928

INTERCEPT™ Technology ANSI Cut Level 4 performance for the ultimate cut resistance.



HyFlex® 11-931

The lightest weight glove that protects against lacerations with an ANSI A2 cut level. Reinforced thumb crotch provides up to 12x the durability for extended wear.



HyFlex® 11-937

Lightweight and 3/4 dipped glove that offers ANSI A2 cut level protection to protect against lacerations.



HyFlex® 11-939

INTERCEPT™ Technology with ANSI Cut Level 4 performance delivers increased cut resistance in a fully coated glove.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment.

VIRAL PROTECTION

As a result of COVID-19, workplaces must consider the need to protect against the spread of illness and viral infection. Ansell offers a wide range of solutions that comply with the World Health Organization's guidance regarding infection prevention and control. In order to make an informed decision, product purchasers and users should stay abreast of the latest and most complete information regarding appropriate PPE to protect against COVID-19 and other viruses in their specific environments and applications.



AlphaTec® Solvex® 37-175

Offers versatile chemical protection and is certified for protection against viruses according to the EN ISO 374-5 VIRUS standard.



AlphaTec® 87-208

Thick natural rubber latex provides extra protection for heavy duty applications. Certified to protect against viruses according to the EN ISO 374-5 VIRUS standard.



AlphaTec® 87-224

Dual-toned natural rubber and neoprene with cotton flock liner delivers durable protection and is certified to protect against viruses according to the EN ISO 374-5 VIRUS standard.



AlphaTec® 37-310

Unflocked glove to prevent the risk of food contamination and certified to protect against viruses according to the EN ISO 374-5 VIRUS standard.



AlphaTec® 2000 Ts Plus Model 111

Guards against liquids and particulate biological hazards. Certified according to the EN 14126 standard to protect against infective agents such as bacteria, fungi and viruses and ASTM F 1671.



AlphaTec® 2300 STANDARD Model 111

Ensures low linting to help reduce the risk of cross contamination in critical areas. Certified according to the EN 14126 standard to protect against infective agents such as bacteria, fungi and viruses and ASTM F 1671.



AlphaTec® 2300 Plus Model 132

Protective barrier to numerous inorganic liquid chemicals including acids and bases. Certified according to the EN 14126 standard to protect against infective agents such as bacteria, fungi and viruses and ASTM F 1671.

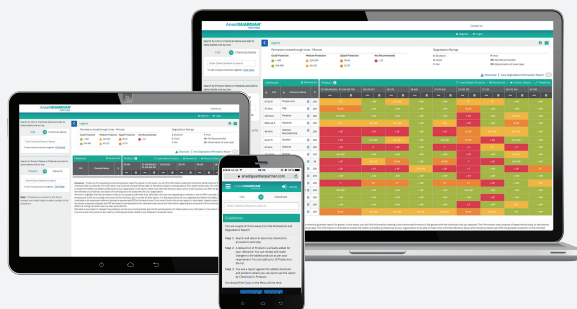
Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment. Gloves not labeled "examination grade" are not designed for use in medical or patient care settings.



AnsellGUARDIAN® is our consultative service to help companies select and implement the right personal protective equipment solutions to improve safety, increase productivity and reduce costs. Using our 125 years of experience, proprietary software system and database of over 30,000 chemicals, we analyze PPE needs and identify the solutions that will work best for each company's unique risks and applications. As an industry pioneer with the most advanced technology and analytics, we have evaluated and implemented best business practices in over 15,000 facilities worldwide, reducing injuries and saving companies a total of \$165M.

AnsellGUARDIAN® Partner

AnsellGUARDIAN® Partner is a self-service tool that allows users to search our extensive chemical permeation and degradation data to identify the appropriate hand and body protection for the chemicals they use. Search by CAS or chemical name and create a customized table with different products or materials to view permeation and degradation charts. Visit ansellguardianpartner.com to get started.



How It Works



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WARNING: Products that provide "cut resistance" and "cut protection" or "puncture resistance" and "puncture protection" do not completely prevent or eliminate the potential for cuts or punctures, and are not intended or tested to provide protection against powered blades, serrated or other sharp or rotating equipment. Products that provide vibration resistance, "abrasion resistance" or "abrasion protection" do not completely prevent or eliminate the potential for vibration or abrasion-related injuries. Products that provide chemical resistance" or "chemical protection" do not completely prevent or eliminate the potential for injury due to chemical exposure. Products that provide "resistance" to oil or grease or which are "oil repellant" do not completely prevent or eliminate the potential for oil or liquid penetration or absorption. Products that provide "snag resistance" or "snag protection" do not completely prevent or eliminate the potential for snags or friction-related injuries. Products that provide protection against sparks or flames are not "fireproof" and do not completely prevent or eliminate the potential for burns or associated injuries. Products that provide protection or resistance against heat or cold are not intended for use in extreme temperatures – use only as specified. Products containing natural rubber latex may cause allergic reactions in some individuals. Users are encouraged to always use caution and care when handling sharp or abrasive materials, chemicals, or other hazardous or dangerous substances. Any information or data provided is based upon Ansell's current knowledge and understanding of the subject matter, and is offered solely as a possible suggestion for use in making your own decisions or product choices. Product users should conduct all appropriate testing or other evaluations to determine the suitability of Ansell products for a particular purpose or use within a particular environment. It is the responsibility of a product user to assess the level of risk and to determine the protective equipment required or appropriate for the user's particular purpose. Ansell may revise this information as new information, knowledge or experience becomes available. ANSELL DISCLAIMS ALL WARRANTIES OTHER THAN AS EXPRESSLY PROVIDED.