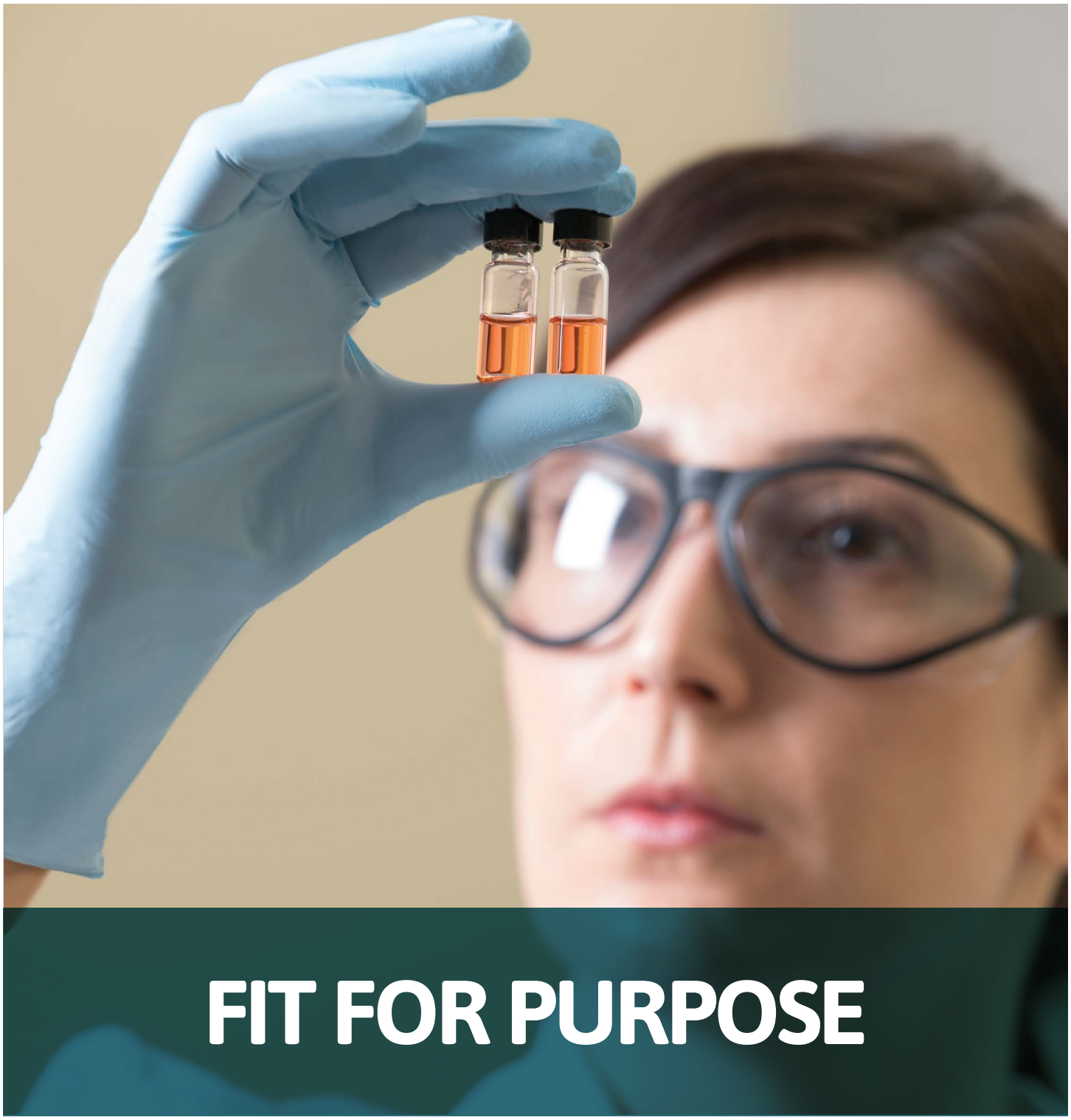


FIT FOR PURPOSE

HAND PROTECTION IN LIFE SCIENCES

Ansell

Specific requirements for hand protection prevail for manufacturing specialised products in the pharmaceutical environment, such as undertaking laboratory processes for biotherapeutic development or other applications involving aseptic processing.

A similar situation applies to clean rooms and laboratories where zero skin contact is required to ensure the integrity of processes and protection of reference materials and commercial production.

Whether hands need to be protected from hazards such as chemicals and bacteria, or products require a sterile barrier, the type of hand protection needs to be carefully selected to provide workers with optimum safety, comfort and efficiency.

This paper discusses the needs of different life sciences work environments and examines the different hand protection needs, challenges and solutions.

PROTECTION TRACKING

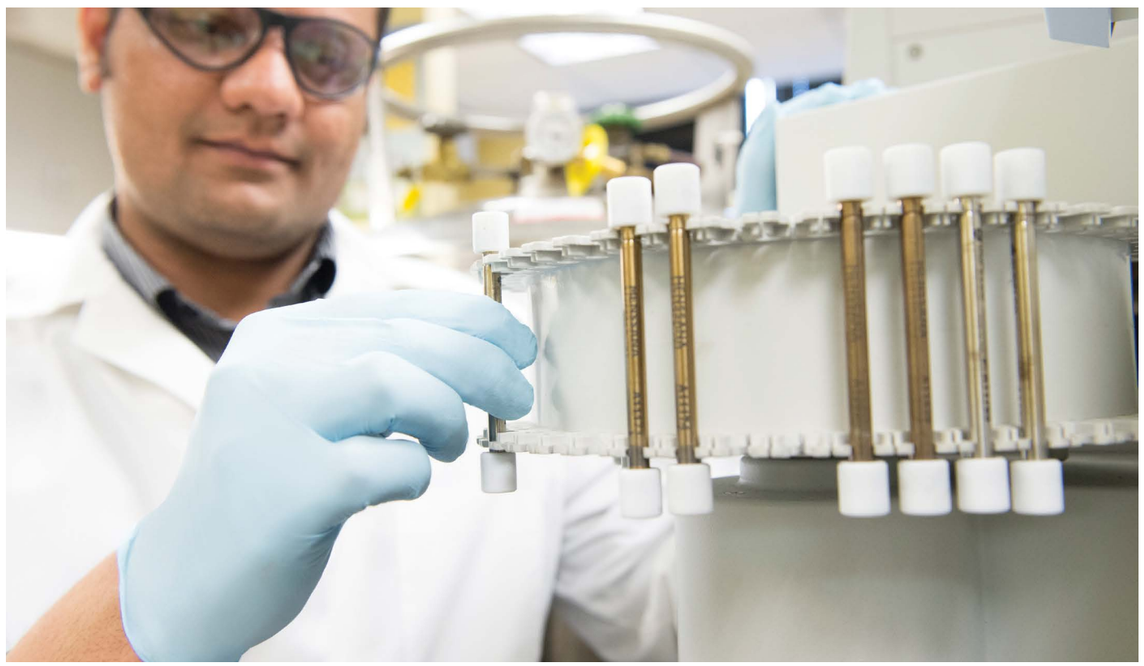
While personal protection is the primary concern in selecting a glove, protecting the product from external sources of contamination is equally important. Potential contamination may come from biological, particulate or undesirable chemical residues.

A contaminated product from any of these sources may lead to unacceptable production lots possibly resulting in a costly, time-consuming rectification process.

Pharmaceutical manufacturers and research bodies must have the assurance of maximum product protection and the ability to track any problems or issues in the case of any batch contamination.

It is important that single-use products that are packaged for zero external contact donning are serially numbered on both packs and gloves so there is always a complete record of traceability.

Glove users may benefit from consultation with specialist life science representatives who are specially trained and equipped to assist by providing guidance about selecting gloves that are fit for purpose as well as advising on glove selection, use and administrative processes.



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ALLERGIC REACTIONS

The nature of human skin and its ability to withstand prolonged contact with different materials varies from person to person. Some hand protection materials may be unsuitable in terms of causing irritation through allergic reactions or excess moisture, which may cause discomfort, long-term dermatological conditions or impede movement which may affect efficiency.

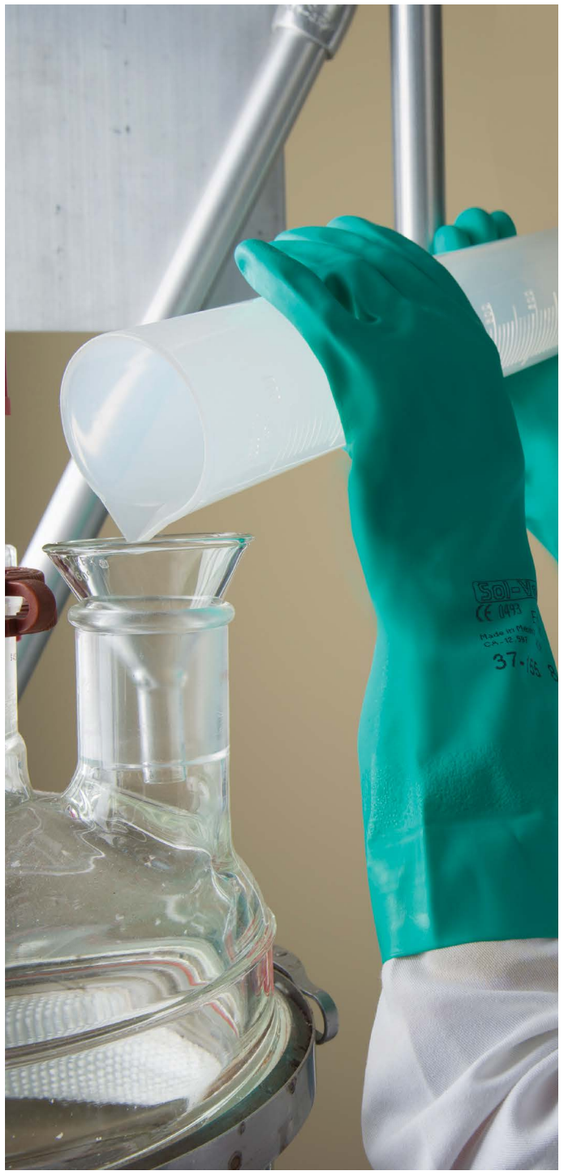
One of the most common problems for glove wearers relates to allergies which are caused by a number of factors. In some cases, contact with gloves may cause issues with skin health, often emerging in the form of allergies, some of which may be severe. Adverse reactions to natural rubber latex (NRL) gloves can range from irritant contact dermatitis to serious allergic response such as anaphylaxis

Allergic reactions to chemical residues from the glove manufacturing process may produce what is known as a Type IV Allergy (Chemical Allergy) or ACD. This type of allergy is a major concern for those employed in the life science industry. A chemical allergy is due to an immunological reaction to a residual chemical leached from finished glove products into the skin of the wearer.

Many glove manufacturers routinely use chemicals in their manufacturing process. These chemicals may include accelerators, accelerator activators, stabilisers, degraders, retarders, fillers and extenders.

In most cases where workers experience hand allergies caused by contact with gloves made from NRL, these can be successfully resolved by changing to gloves made from synthetic materials that provide similar comfort, elasticity and strength attributes to natural latex.

Gloves with synthetic material options include polyisoprene, neoprene or nitrile and may be used as a direct replacement for latex, or used with double donning as a barrier between skin and an outer glove of NRL. Allergic contact dermatitis may be significantly reduced through better quality manufacturing. Users who experience these type of allergies should select skin-friendly products that have not been exposed to chemical accelerators.



SOLUTIONS FOR SPECIFIC APPLICATIONS

Every task presents its own set of challenges and pathways to achieving the best result. People need to perform their job knowing that protection barriers between skin and product are appropriate for the materials or hazards being handled.

Whether the application calls for tactility, dexterity, protection against fluid permeation, exposure to bacteria, ability to keep a positive grip on delicate instruments and equipment or protection against cuts and abrasions, it is important to select hand protection which is fit for the specific purpose.

Clean rooms

In clean rooms where the air supply and construction regulates and controls airborne particle concentrations, typical contaminants encountered are dust, pollen, fibre tissue, skin, hair residue and biological and chemical contaminants such as bacteria, mould viruses and ions.

Gloves that meet the requirements for the different cleanroom classifications need to be tested for particulates and extractable ion content, establishing how clean the glove is and its suitability for the application.

The properties of hand protection in this environment need to include tear and rip prevention, positive grip, ease of donning and doffing while providing comfort and tactility without generating uncomfortable perspiration between skin and the glove material.

Sterile Environments

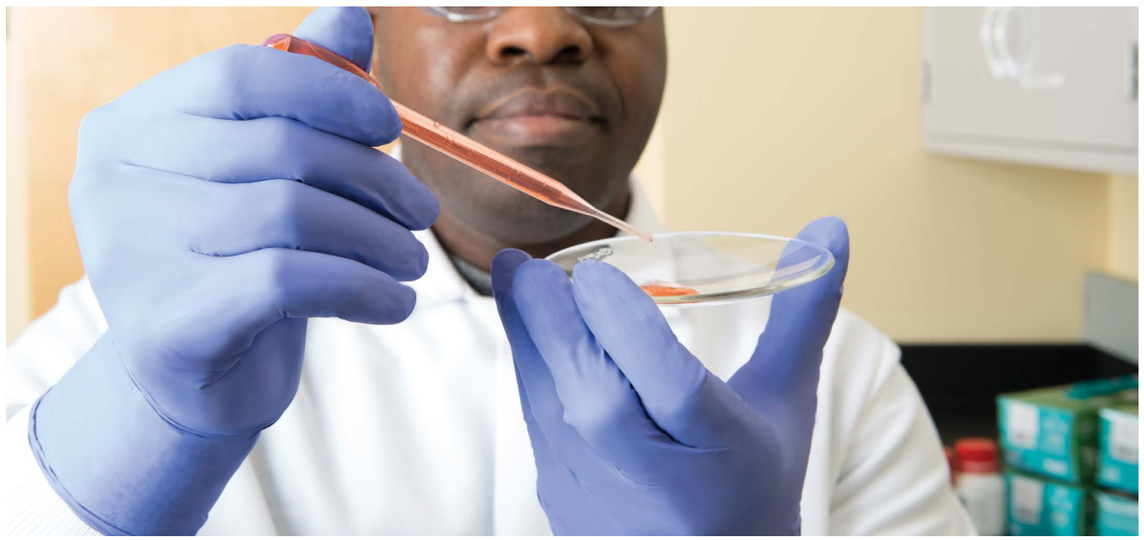
Laboratories where people blend liquids and work with injectable products and vaccines require a sterile environment that contains zero microbiological contamination. These workplaces call for critical processes where workers need to perform tasks quickly and efficiently, therefore appropriate glove selection is important to give workers a positive sensory experience, combined with high level barrier protection.

Laboratories

The wide variety of tasks scheduled in analytical laboratories calls for specialised hand protection that is appropriate for each work project. Technicians are required to wear gloves for extended periods, therefore it is important that glove materials allow hands to remain allergy free, dry and comfortable. Selection of the suitable barrier protection needs to take into account the ability of the glove to provide positive grip and ease of donning/doffing between tasks.

Glove length may also be important, as is dexterity and a high level of tactility.

Whether it's research and development; testing for academic reports or routine analytical or quality checking, selection of a glove that is appropriate for the purpose will provide the best level of protection while making tasks more efficient.



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PERFORMANCE VALIDATION

People working in pharmaceutical manufacturing and other sterile or clean environments need the assurance of protection, while the integrity of sensitive testing and laboratory processes needs to be maintained by preventing two-way contamination between workers and product.

It is critical that life science laboratories source hand protection from suppliers who are able to provide evidence of experience in manufacturing products for critical areas such as medicine and support their products through a high level validation process and reporting regime that complies with global best practice.

MATERIALS RESEARCH

Research into new materials and manufacturing techniques has made a major contribution to ensuring that operators of life science laboratories receive the maximum value for their investment in protecting their workers and products.

Today, life science protective products are available for applications in research, health, agriculture, medicine and the pharmaceutical and food science industries. Specific models are available for people involved in pharmaceutical manufacturing, nanotechnology or handling materials and equipment in sterile or clean room environments.

SOLUTIONS

Ansell provides high performance, task-specific barrier protection solutions across all life science industries and applications and has the experience, knowledge and manufacturing skill to produce gloves that protect the hands of workers against bacteria, allergens and chemical permeation. Other hand protection solutions deliver mechanical, thermal and chemical protection.

Experience throughout the world's most demanding markets has enabled Ansell to evolve and develop a comprehensive range of fit-for-purpose hand protection products that deliver the performance and value demanded in a highly competitive global life sciences research and manufacturing environment.

To find out more about how Ansell's Life Science range can help protect both workers and products, visit ppe.ansell.com.au/lifesciences or request a sample here

Ansell**GUARDIAN**®

Ansell Guardian simplifies the glove selection process for businesses by helping you assess cost effectiveness, employee and product protection, safety outcomes and fitness for purpose.

We visit your workplace and work alongside you to understand your particular safety requirements and operational needs in order to provide a clear and concise action plan for you to implement immediately.

The outcome is enhanced protection for your workers, improved business performance and safety compliance.

To find out more, talk to an Ansell specialist today.

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