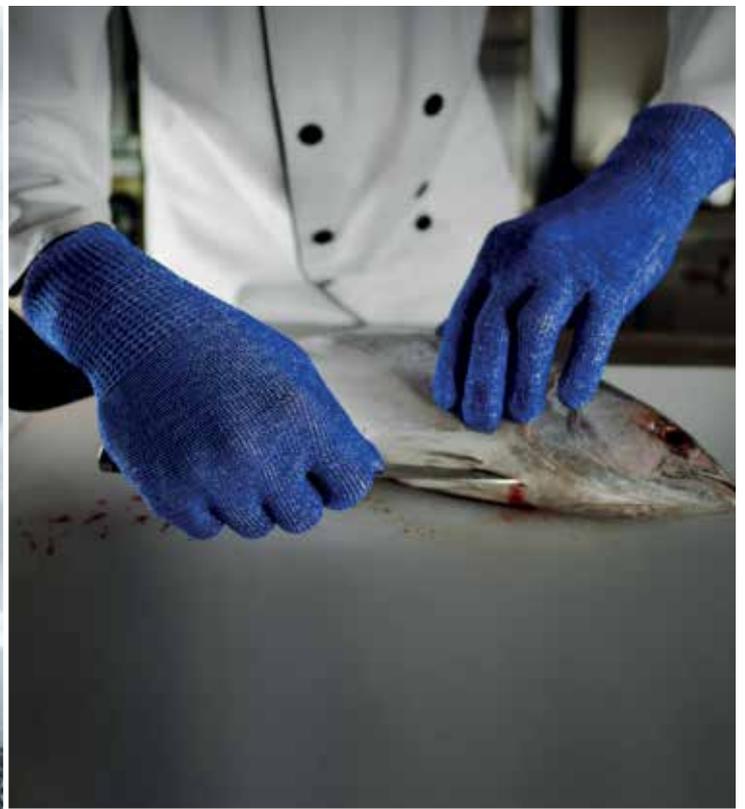




Ansell



REUSABLE ALTERNATIVES TO SINGLE USE GLOVES

Chemical and Mechanical
Hand Protection Solutions
www.ansell.com/reusable-options

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CHOOSING ALTERNATIVES TO SINGLE USE GLOVES DURING SUPPLY SHORTAGES

The current market situation

The rise of COVID-19 has undeniably increased consumption of single use gloves. Global demand has therefore outpaced supply capabilities and disposable gloves are often reserved for front-line healthcare providers.

Following the increase in demand, Ansell is significantly increasing its manufacturing capacity to meet the global demand in the best possible way. Ansell also recognises that some organisations may need to consider **temporary or alternate solutions** to mitigate subsequent critical supply shortages. Any alternative approach should be founded on scientific evidence and, where applicable, regulatory guidelines to avoid a false sense of security.

Based on current evidence, in consultation with international experts, WHO (World Health Organization) has published last-resort temporary measures for consideration during crisis situations. **These temporary measures for PPE usage should be used only when and where there are serious PPE shortages or PPE is not available.**

Single use glove supply shortages explained

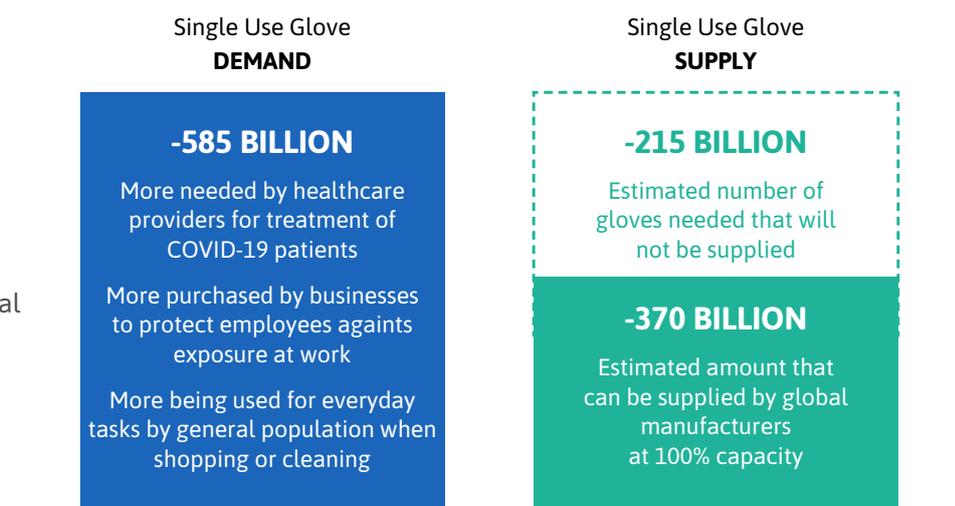
The gap between supply and demand of single use gloves has significantly widened in the past few months. The COVID-19 pandemic has dramatically raised demand for single use gloves and the raw materials used to make them, resulting in significant supply shortages.

High Demand VS. Shortage of Supply

There is not enough supply of single use gloves to meet the extremely high market demand.

A Rapidly Changing Market

Average sales prices for single use gloves have risen dramatically over the past several months and analysts predict prices will remain elevated until 2022.



CY 2020 Ansell Estimates

What is the difference between single use gloves and reusable gloves?



SINGLE USE GLOVES

- Are also known as disposable gloves, are usually thinner gloves intended for disposal after use
- Single use gloves should not be reused to prevent bacteria from spreading
- Are used in a wide array of medical and industrial applications as a first line of barrier protection against biological, chemical, and some mechanical dangers



REUSABLE GLOVES

- Designed to provide maximum protection and are ideal for use with harsher, hazardous chemicals and liquids
- Are usually thicker than disposable gloves
- Should be cleansed after every use

SINGLE USE OR REUSABLE: HOW TO MAKE THE RIGHT CHOICE?

Virtual AnsellGUARDIAN® Assessments

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 analyse PPE needs and identify the solutions that will work best for each company's unique risks and applications. We have evaluated and implemented best business practices in over 15,000 facilities worldwide, reducing injuries and saving companies a total of \$165M. AnsellGUARDIAN® assessments address 7 functional areas:

Injury Prevention

Identify hazards to reduce the risk of injury and lower the direct and indirect costs of injuries

Cost Reduction

Make performance improvements to lower direct and indirect PPE costs

SKU Reduction

Minimise SKUs to improve working capital

Standardisation

Ensure optimum product selection across similar jobs

Controls

Optimise usage and disposal procedures

Training

Educate employees on selection and effective use of PPE

Productivity & Waste Reduction

Improve output through waste elimination

The New, Virtual AnsellGUARDIAN® Process

We've developed a new, virtual process for AnsellGUARDIAN® assessments to protect against COVID-19 risks. With virtual assessments and contactless implementation, we are fully equipped to provide all the benefits of AnsellGUARDIAN® without the need to visit your facility in person.



Data Collection



Virtual Plant Assessment



Analysis and Recommendations



Final Report



Validation Testing & Implementation



Training

- 1 We'll gather data about your current PPE, **virtually**, by teleconferencing with safety managers and end-users and reviewing video clips of applications and processes. All intellectual property is highly secure and fully protected with NDAs.
- 2 Our industry experts and chemists will leverage our proprietary software to make tailored recommendations to meet your specific needs. We'll deliver our findings via teleconference and send our final report to you **digitally**.
- 3 With our **contactless** implementation, we'll send samples and launch videos, virtually train your workforce, and validate our recommendations against all benchmarks. We're committed to ensuring successful implementation.

➤ For more information on AnsellGUARDIAN®, please visit www.ansell.com/services

CAN YOU CONSIDER REUSABLE ALTERNATIVES?

Scenario 1: single-use remains the only option

Upon assessment via AnsellGUARDIAN®, results might indicate that single use personal protective equipment remains the best option. The credibility and necessity of single use gloves are for example inarguable when a task requires a high level of tactility such as handling very small components or small recipients and needs chemical protection. In addition, it goes without saying that if a task requires contact with patients, single use gloves should be the choice.

In those cases, the importance of proper disposable procedure cannot be emphasized enough. Without a proper disposable procedure, users are at risk of contamination and spread of infection.

Proper disposal of SU PPE



In most cases, single use gloves should be thrown into a lined trash bin after use.

Disposable gloves provide a critical layer of protection against hazardous substances. It's important to properly remove gloves to avoid transferring contaminants to the hands and skin. Improper disposal after use greatly increases the chance of transferring that contamination.



In some instances, a disposable glove is considered medical waste.

Disposable gloves used in patient contact and/or exposed to blood and other bodily fluids may be contaminated with hazardous substances, like viruses, and should be disposed of in medical waste bins. According to the WHO, it's important to follow local guidelines for medical waste to ensure they don't spread contamination.

Scenario 2: a reusable alternative is possible

On the other hand, AnsellGUARDIAN® assessment's results might indicate that a switch to reusable solutions can be considered. Should this be the case, Ansell's experts are here to listen to your needs and guide you through the process.



WHY SHOULD YOU CONSIDER TEMPORARILY USING REUSABLE GLOVES

Safety

It is crucial to ensure the personal protection needs of workers are met. Recent supply challenges across the world have opened up the possibility of exploring reusable options. This will enable workers to continue working safely with adequate protection against the specific risks of the new normal.

Comfort and dexterity

Glove wearers do not always have to compromise on comfort or dexterity when using reusable gloves. Our wide range of reusable protection solutions can offer thin solutions such as the AlphaTec® 58-128, combining the optimal level of protection and comfort. Many of our gloves are also ergonomically designed, improving worker's performance when doing repetitive tasks.

Cost

Because they can be cleaned and re-worn, some reusable solutions might help to reduce total cost of ownership when compared to single-use gloves.

SUBSTITUTE TO SINGLE USE PPE DURING THE COVID-19 PANDEMIC

Because of the global presence in PPE and its capabilities, Ansell can offer reusable chemical and mechanical gloves, as potential, temporary alternative solutions to disposable PPE running low or becoming unavailable.

Our product alternatives list is non-exhaustive. Should you wish to choose the right reusable alternative for your protection needs, kindly contact your Ansell Sales Representative to schedule an AnsellGUARDIAN® assessment.



Gloves lifetime - Chemical



List of product alternatives:

Chemical protection solutions

Consider using reusable chemical gloves when single use gloves are not available. Ansell's range of gloves offers alternative solutions depending on the chemicals and the application. Not only these gloves are able to provide the same level of comfort and grip, they can be disinfected thus eliminating the risks when it comes to the health and safety of the workers.



Gloves lifetime - Mechanical



■ Dry
 ■ Dry / slightly oily
 ■ Wet / oily
■ Wet / oily / cut
 ■ Wet / dry / oily

List of product alternatives:

Mechanical protection solutions

If you are working in a dry environment, you might consider using a light and breathable glove. If your application is an oily one, you can use an oil-repellent glove. In any case, we recommend you to consult one of our experts for a precise recommendation.

Dry applications



HyFlex® 11-800



HyFlex® 11-840



HyFlex® 11-849



HyFlex® 11-100



HyFlex® 11-300



HyFlex® 11-427

Slightly oily / wet applications



HyFlex® 11-925



HyFlex® 11-937



HyFlex® 11-926



EDGE® 48-919



HyFlex® 11-939



CLEANING PERSONAL PROTECTIVE EQUIPMENT FOR REUSE (CHEMICAL)

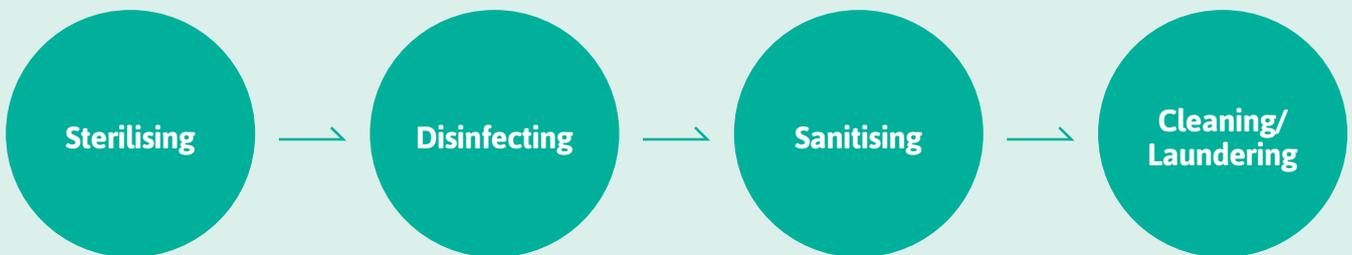
How clean is “clean” and what methods are available?

Last-Resort Temporary Measures for PPE Usage¹

- | | | |
|--|---|--|
| <p>1
Extended duration of use for PPE</p> | <p>2
Reprocessing, followed by reuse (after cleaning or decontamination /sterilisation) of PPE</p> | <p>3
Considering alternative items compared with the standards recommended by WHO</p> |
|--|---|--|

If you are considering an adapted approach to the instructions for use of PPE based on WHO guidelines, there are various factors to consider. Ansell experts have prepared the following advice for those considering how to clean or ‘cleanse’ PPE for reuse. These guidelines were developed after taking into consideration the impact on PPE performance and protective abilities of various cleaning methods.

To protect the integrity and performance of PPE products, it is important to follow the correct steps associated with different cleansing methods. Below are the four types of cleansing methods in order of effectiveness.



REMEMBER: Always inspect PPE for defects prior to use, especially after any cleansing activity has been undertaken. After removing PPE, including protective gloves, always wash your hands.

NOTE:

1. ATTENTION: WHO stresses that these temporary measures should be avoided as much as possible when caring for severe or critically ill COVID-19 patients, and for patients with known co-infections of multi-drug resistant or other organisms transmitted by contact (e.g. Klebsiella pneumoniae) or droplets (e.g. influenza virus). These substitutes may be considered as potential alternatives to non-medical grade disposable gloves only. Remember: Always inspect PPE for defects prior to use, especially after any cleansing activity has been undertaken. If any defect or malfunction is found, the equipment must be taken out of service. Dispose of the equipment carefully. After using PPE, including protective gloves, always wash your hands according to guidelines. Disclaimer: Employers must ensure workers are trained on the hazards of the cleaning chemicals used in the workplace as well as the proper disposal of regulated waste and PPE. Since Ansell does not control the environment the PPE is stored or used, the reuse decisions of Ansell products, whether alone or in combination with additional PPE for an application is the final responsibility of the user.

Sterilising



CDC* Definition	Requires	Process	Effectiveness	Associated Risks
Bombardment of gamma radiation or EtO** gas to kill organic matter by the breaking down bacterial DNA, inhibiting bacterial replication.	Irradiation chamber / access to EtO** gas	Per the CDC* definition	6-log reduction in microbial contamination on the PPE – reduction up to 99.9%	<ul style="list-style-type: none"> PPE made from materials incompatible with gamma / EtO** will lose mechanical and chemical properties Repeated sterility is not a viable method of cleaning as sterility assurance cannot be guaranteed and multiple exposure to gamma radiation or EtO** gas will destroy the product

Disinfecting



CDC* Definition	Requires	Process	Effectiveness	Associated Risks
Disinfecting kills germs on surfaces or objects. Disinfecting works by using chemicals to kill germs on surfaces or objects. This process does not necessarily clean dirty surfaces, but by killing germs on a surface after cleaning, it can further lower the risk of spreading infection.	Requires disinfecting agent containing chemicals such as sodium hypochlorite or hydrogen peroxide	<p>Step 1: Remove PPE using proper doffing procedure</p> <p>Step 2: Apply disinfecting agent thoroughly by spray bottle on both front and back of the PPE and allow at least 10 seconds of exposure per side</p> <p>Step 3: Allow at least 30 minutes of drying time in a well-ventilated area before reusing PPE</p> <p>When dealing with body protection, ensure the zipper is fully open</p>	Reduction of up to 99.9% of microbial contamination from the surface of the PPE	<ul style="list-style-type: none"> Due to the stronger agents involved, degradation or visible changes of the PPE may occur Rapid drying, such as tumble drying, may compromise the protective properties of the PPE Ensure it is carried out in a ventilated area far away from a flame or spark as ingredients are flammable

*CDC - Centers for Disease Control and Prevention

**EtO - Ethylene oxide

Sanitising



CDC* Definition	Requires	Process	Effectiveness	Associated Risks
Sanitising lowers the number of germs on surfaces or objects to a safe level, as judged by public health standards or requirements. This process works by either cleaning surfaces or objects to lower the risk of spreading infection.	70-75% isopropyl alcohol*	<p>Step 1: Remove PPE using proper doffing procedure</p> <p>Step 2: Apply 70-75% isopropyl alcohol thoroughly by spray bottle on both front and back of the PPE and allow at least 30 seconds of exposure per side</p> <p>Step 3: Allow at least 10 minutes of drying time before reusing PPE</p> <p>When dealing with body protection, ensure the zipper is fully open</p>	Reduction of up to 99.9% of microbial contamination from the surface of the PPE	<ul style="list-style-type: none"> Do not use 90+% isopropyl alcohol, as it evaporates too quickly for cleaning Ensure it is carried out in a ventilated area far away from a flame or spark as alcohol is flammable Rapid drying, such as tumble drying, may compromise the protective properties of the PPE

* Ansell recommends to use ethanol or isopropanol but not methanol.

Cleaning/Laundrying



CDC* Definition	Requires	Process	Effectiveness	Associated Risks
Cleaning removes germs, dirt, and impurities from surfaces or objects. Cleaning works by using soap (or detergent) and water to physically remove germs from surfaces.	Warm, soapy water	<p>Step 1: Remove PPE using proper doffing procedure</p> <p>Step 2: Introduce PPE to warm water</p> <p>Step 3: Perform light scrubbing</p>	Cleans surface dirt only and moves germs from or around the surface of the PPE.	<ul style="list-style-type: none"> It can be challenging to ensure all surfaces of garments are correctly washed Use of hot water (>140°/60°C) could cause physical stress to the PPE and affect its performance Scrubbing too hard could compromise the physical properties of the PPE

CLEANING PERSONAL PROTECTIVE EQUIPMENT FOR REUSE (MECHANICAL)

Laundering

Mechanical hand and arm protection safeguards workers from a variety of industrial risks such as cuts and abrasion. Experts recommend proper care and cleanliness of mechanical gloves and sleeves to extend wear life and minimise the spread of viruses. Due to the variety of coatings and fabrics, it is important to follow manufacturer's guidelines when cleaning mechanical PPE.

Follow the steps below for proper care of HyFlex® hand and arm PPE:

HyFlex® gloves and sleeves made with polyamide material (such as Nylon)

Examples: 11-800, 11-840, 11-270

HyFlex® gloves and sleeves made of para-aramid fibers (such as DuPont™ Kevlar®)

Examples: 11-541, 11-550, 70-11X

*Important Note: Do NOT use bleach on styles containing para-aramid fibers such as DuPont™ Kevlar®

HyFlex® gloves and sleeves made of high performance polyethylene (such as Dyneema® or Spectra®)

Examples: 11-518, 11-724, 11-280



Use commercial laundry soap or detergent (do NOT use dry cleaning solutions)



Wash for 10 minutes in warm water, do not exceed 40°C



Rinse in warm water, do not exceed 40°C



If soiling is especially heavy, repeat wash and rinse cycle



Tumble dry, do not exceed 40°C



Use commercial laundry soap or detergent (may be bleached to help restore whiteness)



Wash for 10 minutes in warm water, do not exceed 40°C



Rinse in cold water



Use high speed spin extraction for best results



Tumble dry, do not exceed 40°C or dry longer than 10 minutes

NOTE: When laundering gloves that have especially heavy dirt or grease, include several pieces of heavy canvas in the second wash cycle - friction from the canvas against the gloves help to loosen and remove deep dirt.

Sanitising

Mechanical PPE such as HyFlex® gloves and sleeves help prevent industrial workplace mechanical risks, such as lacerations and abrasions, and are designed to withstand long-term use and multiple cleaning and sanitisation cycles. Due to the COVID-19 pandemic, it is especially important to sanitise PPE between laundering cycles.

There are three steps to properly sanitising your reusable mechanical PPE between laundering cycles.

The below protocol is effective for most mechanical protective industrial gloves and sleeves.



Step 1:

Remove PPE using proper doffing procedure[†]
Rest on a clean surface after removal



Step 2:

Apply 70-75% isopropyl alcohol* thoroughly by spray bottle on both front and back of the PPE and allow at least 30 seconds of exposure per side

Do not use 90+% isopropyl alcohol as it evaporates too quickly for cleaning

IMPORTANT:

Ensure it is carried out in a ventilated area far away from a flame or spark, as alcohol is flammable



Step 3:

Allow at least 10 minutes of drying time before reusing PPE

REMEMBER:

- Always wash your hands for 20 seconds with soap and water or use an alcohol-based hand sanitiser containing at least 60% alcohol after removing PPE
- Inspect PPE before every use to ensure the integrity is not compromised and it is suitable for the application for which it is being used

[†]Ethanol can be substituted for isopropyl alcohol. Do not substitute with methanol.

Mechanical hand and arm protection is made using different materials and therefore, have a variety of cleansing and sanitisation processes. While it may seem easy to use everyday products such as sprays and wipes, all disinfecting products are created using different formulations, so it is difficult to predict their interaction with the variety of PPE coatings and fabrics and whether or not they are sufficiently disinfecting the PPE from the COVID-19 virus.

Disclaimer:

Employers must ensure workers are trained on the hazards of the cleaning chemicals used in the workplace as well as the proper inspection and disposal of regulated waste and PPE. Since Ansell does not control the environment the PPE is stored or used, the cleansing and reuse decisions of Ansell products, whether alone or in combination with additional PPE for an application, is the final responsibility of the user.





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➤ **For more information on AnsellGUARDIAN®**, please visit www.ansell.com/services
and for more information on Ansell's safety solutions visit www.ansell.com/reusable-options

Given the novelty of this coronavirus, recommendations from the source references are interim and advisory in nature and are based on current knowledge of the situation. Always ensure compliance with your local public health authorities for the latest information regarding the COVID-19 pandemic.

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