



VIRUSTATIC SHIELD

THE ANTI-VIRAL FACE COVERING WITH
PROTECTIVE FEATURES

USER INFORMATION PACK

1

What is the Virustatic Shield

2

The Science behind the Virustatic Shield



5

Donning Instructions

6

Washing Instructions

7

FAQ



11

Ordering Information

11

Certification

 survitec

The Virustatic Shield is an anti-viral face covering with protective features. It has been designed to provide protection against viruses and has been proven to be over 96% effective against the H1N1 influenza virus. In June 2020, laboratory tests by independent scientists from VisMederi at the university of Siena found that the Viruferrin™ protein compound inhibits SARS-CoV-2 at a cellular level. This is the exact strain behind Covid-19. This Shield is the only face covering available that has a protective Viruferrin™ coating. Please note, no device can guarantee 100% protection against viruses. The Virustatic Shield effectiveness is improved when used alongside the World Health Organization (WHO) issued hygiene guidelines.

WHAT IS THE VIRUSTATIC SHIELD?

The Virustatic Shield has been designed and developed to reduce pathogenic microbial intake into the human respiratory system. Its revolutionary Viruferrin™ protein coating works to disable viruses on contact to help slow the spread of infections. This was originally proven during testing against the H1N1 Influenza virus in June 2020, laboratory tests by independent scientists from VisMederi at the University of Siena have also found that the Viruferrin™ protein compound inhibits SARS-CoV-2 at a cellular level. This is the exact strain behind Covid-19.

The 'snood' style design is lightweight and can be worn with comfort for many more hours than current closely fitted face masks. It is reusable and effective for up to 200 hours and retains its protective layer for up to 3 washes. In addition, the protein layer is designed to allow the mask to be touched without transferring the virus for non-hazardous disposal once used.

FEATURES

- 360° 'SNOOD' STYLE
- PROVEN TO BE OVER 96% EFFECTIVE AGAINST THE INFLUENZA VIRUS
- VIRUFERRIN™ COATED
- CUTS RISK OF CROSS CONTAMINATION FROM SALIVA DROPLETS
- DESIGNED TO PROVIDE TWO-WAY INFLUENZA VIRUS PROTECTION TO SIGNIFICANTLY REDUCE RISK OF CROSS INFECTION
- HYGIENIC FABRIC COATING DISABLES THE VIRUS, SO THE SHIELD IS SAFE TO TOUCH
- NON HAZARDOUS DISPOSAL
- PROTECTS CRITICAL VIRUS INFECTION POINTS: MOUTH, NOSE AND EARS
- NATURAL FABRIC FOR BREATHABILITY
- DESIGNED FOR COMFORT
- EASY FIT
- MULTI-LAYER ANTI-COUNTERFEIT SECURITY

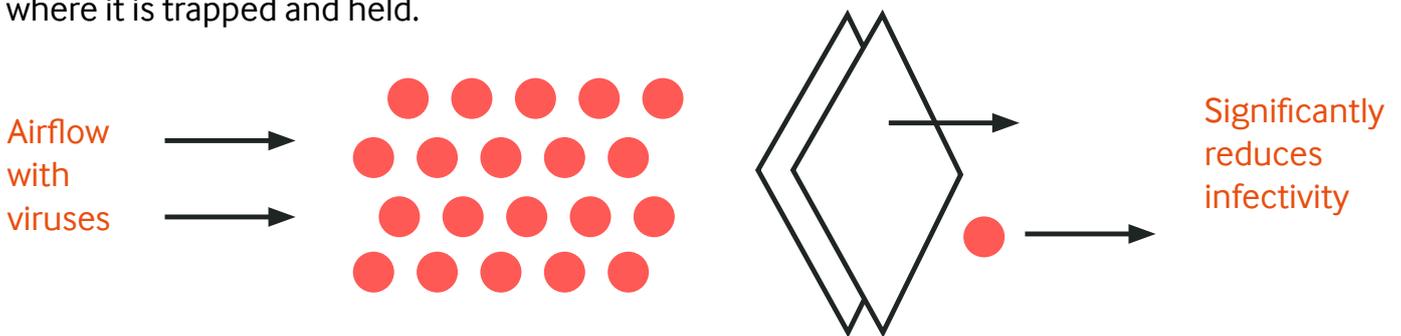


THE SCIENCE BEHIND THE VIRUSTATIC SHIELD

The Virustatic Shield is coated with an anti-viral protein compound, Viruferrin™, developed originally for flu pandemics. It is 96% effective against H1N1 the Influenza virus and laboratory tests by independent scientists from VisMederi at the University of Siena found it inhibits SARS-CoV-2, the strain behind the current Covid-19 pandemic at a cellular level.

Results show the Viruferrin™ inhibits Covid-19 by creating a protective shield over parts of the cell meaning the cell can not become infected. However, before this stage, the Virustatic Shield works in the following ways to prevent the virus from actually entering the wearer's respiratory system. This is done by; please see appendix on updated modes of action.

Inertial Impaction: Inertia works on large, heavy particles suspended in the flow stream. These particles are heavier than the fluid surrounding them. As the fluid changes direction to enter the fibre's space, the particle continues in a straight line and collides with the media fibres where it is trapped and held.



Diffusion: Diffusion works on the smallest particles. Small particles are not held in place by the viscous fluid and diffuse within the flow stream. As the particles traverse the flow stream, they collide with the fibre and are collected.

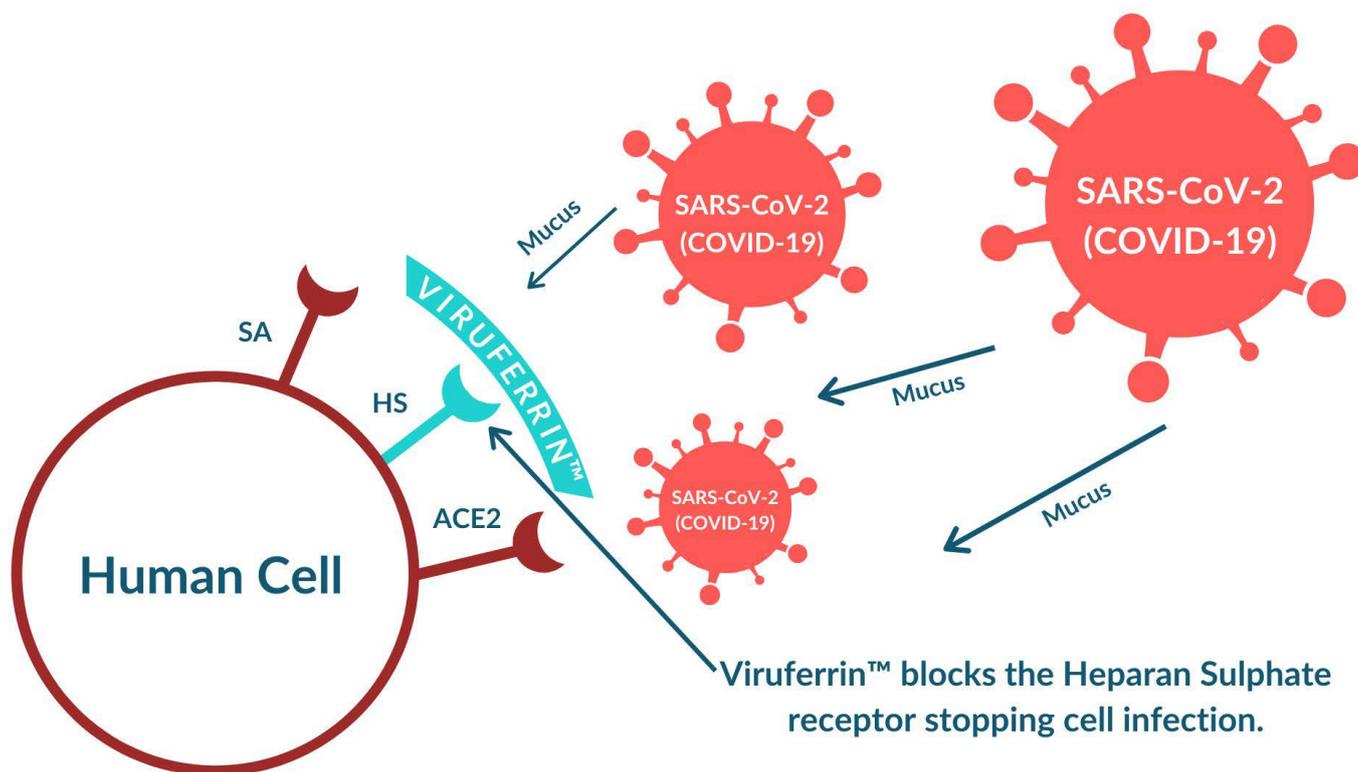
Cationic Action: Viruses within very small aerosol particles (<1 µm) which can pass through the weave/pores of the fabric are disrupted by peptides which are both highly positive and highly negative. The combination of Viruferrin™ and an optimised effective pH level enables ionic or cationic disruption of the virus's spike protein and viral envelope. The proteins selected for the Virustatic Shield, such as the cationic molecule lactoferrin, interacts through its positively charged cluster in the N-terminal region of N-lobe with the anionic part (lipid A) of lipopolysaccharide (LPS), a component of the outer membrane of Gram-negative bacteria. This interaction damages the bacterial and viral membranes.[i] [ii]

Hydrophilic Dispersion: The Virustatic Shield is hydrophilic and adsorbs liquid from the mucous aerosol. This induces the mucus components to phase separate and the pH decrease to become more acidic. In a desiccated mucus aerosol, the physico-chemical changes which occur affect the viability of any pathogens contained within it and thus affects the efficiency of transmission of infectious disease by droplets and aerosols.[iii] In comparison, medical and existing masks are hydrophobic and stay viruses and pathogens stay active within mucus aerosol and these masks are nothing but an infective formite.

Interception: Direct interception works on particles in the mid-range size that are not quite large enough to have inertia and not small enough to diffuse within the flow stream. These mid-sized particles follow the flow stream as it bends through the fibre spaces. Particles are intercepted or captured when they touch a fibre.

Sieving: Sieving, the most common mechanism in filtration, occurs when the particle is too large to fit between the fibre spaces

Binding: For live viruses which are still active after the above processes, the Viruferrin™ protein coating on the Virustatic Shield will bind to the proteins on the virus's spike membrane which immobilises the virus and renders it inert. pH is very important in this process as it changes the structure of the surface of the coating and the principle advantage in binding is the protein's ability to bind.



THE SCIENCE BEHIND THE VIRUSTATIC SHIELD CONTINUED

Virustatic Shield vs. Alternative face masks

Viruses are transmitted via airborne aerosols. They bind onto receptors on the surface of cell membranes in the upper and lower respiratory system, causing infection. The use of respirators and face masks are a key part of a larger strategy to reduce the spread of viruses by establishing barriers between infected and uninfected individuals.

Existing masks are hydrophobic and are designed to provide a barrier so that liquid particulates or splatter, such as mucus and blood, are caught on the surface of the mask. These particulates and splatter remain live on the surface of the mask and can go on to cause infection when the mask is touched or removed. The build-up of these active particulates on the surface of the mask leads to a high and increasing pressure drop which:

- Limits how long they can be used
- Requires the mask to be fit tested
- Reduces oxygen levels causing headaches and fatigue
- Draws in contaminated viral aerosols around the edges

N95 masks protect against at least 95% of very small (0.3 micron) particles, they appear to have become the gold standard for mask protection during the pandemic. Valve masks are a type of N95 mask that have a one-way valve allowing exhaled air to pass through a small round or square filter disc attached to the front. Some commercially available cloth masks also feature a valve. Valve masks have several benefits. In addition to protecting the wearer if fitted correctly, they allow easier exhalation than traditional masks, prevent humidity and reduce uncomfortable heat and carbon dioxide build up inside the mask.

Even though, when correctly fitted, valve masks adequately protect the wearer, they fall short because of the valve design which only filters air breathed in, but not breathed out. The purpose of the Centers for Disease Control and Prevention’s universal masking guidelines is to prevent viral transmission from infected individuals to people around them. Exhaled air passes unfiltered into the environment, taking potentially harmful droplets with it.



	Virustatic Shield	FFP3 (N99)	FFP2 (N95)	FFP1 (N90)	Surgical Mask
Anti Virus	●				
360° Protection	●				
Easy to Breathe Through	●			●	●
Easy to Fit and Wear	●				●
Suitable for All Faces/Beards	●				●
Reusable	●				

DONNING INSTRUCTIONS

For maximum protection, pull the Shield over your head to cover your nose, mouth – ensuring a snug fit. For maximum protection, fold the Virustatic Shield in half and double up the layers.

- 1 **Wash your hands before opening**
- 2 **Rub the colour change icon on the security label**
- 3 **Scan the QR code using any barcode app**
- 4 **Check your purchase is a genuine product**
- 5 **Carefully remove the shield from the wrapper**
Do not cut the fabric
- 6 **Discard packaging**
Recycle where possible
- 7 **Wipe your hands using the fabric of the shield**
Make sure hands are dry
- 8 **Pull the shield down over your head**
- 9 **Use as a single layer for over 96% protection**
- 10 **Or double layer for a tighter, more effective fit for the smaller head**
- 11 **Pull shield over your head with fold at the bottom**
- 12 **Cover mouth and nose, making sure of a tight fit to ensure maximum protection**
- 13 **Best Practice**
Always wash hands before wearing and removing Shield
Keep cool and dry when not in use
- 14 **Important information**
Do not iron
Do not tumble dry
Wash with water only
Leave to air dry naturally

SINGLE PLY DONNING OPTION



DOUBLE PLY DONNING OPTION



Please note, the Shield is not effective unless you have achieved a proper fit with your mouth and nose fully covered.

PLEASE NOTE - FOR OFFSHORE TRANSFER USE, EAR PLUGS MUST BE FITTED FIRST

IMPORTANT WASHING INSTRUCTIONS

Read the instructions below for the correct way to care for your Virustatic Shield
The information below must be followed to ensure the protective coating is not damaged.
Failure to follow the instructions below will reduce the protective qualities of the fabric.

Do not machine wash
Hand wash in water only



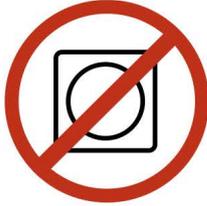
**Hand wash shield sparingly
& only when necessary**
Washable up to 3 times



Do not use detergents
Hand wash in water only



Do not tumble dry
Leave to air dry naturally



Do not iron
Heat damages the coating



**Do not cut or pierce
the fabric**



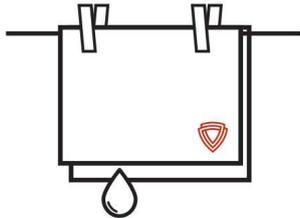
**Do not spray fresheners
or anti-bacterial
products on the fabric**



**Do not spray perfume
on the fabric**



Leave to dry naturally
Do not use a heat source



FREQUENTLY ASKED QUESTIONS

WEARING YOUR VIRUSTATIC SHIELD

When should I wear a Virustatic Shield?

If you cough or sneeze, Virustatic Shield can cut the risk of virus spread. We recommend that you wear a shield if you are out in public, in the proximity of others, if you are isolating at home with family members - or if you have the virus to avoid transmission to others.

What is the right way to wear your Virustatic Shield?

Pull the Shield over your head to cover your nose, mouth and ears – ensuring a snug fit. Rolling the Shield will not reduce its effectiveness and can be achieved with non-piercing accessories. Accessories include hair clips, ties, bobbles, section clips, grips, butterfly clips or fitted under the back of a cap. For maximum protection, fold the Virustatic Shield in half and double up the layers.

Can I wear the Virustatic Shield inside out?

Yes. Virustatic Shield's protein coating, in combination with the material, works in both directions. So it doesn't reduce the anti-viral effect if you wear it inside out.

Can I fold my Virustatic Shield over?

Yes, it's fine to fold the Shield, as long as you cover your nose, mouth and ears.

Does Virustatic Shield lose its shape?

The Shield is manufactured to the highest standards from natural fibre materials to allow the coating to impregnate the fibres. Prolonged wear without washing may result in the fabric becoming loose. Tightening with a non-piercing clip will support repeated wear and hand washing will help restore its original shape and fit.

Is the anti-viral effectiveness compromised if the Shield is worn wet and is there any restriction to breathing?

Neither an anti-viral performance or breathability test has been completed on a wet Shield. The manufacturer states that during in-house testing, it hasn't noted a difference that would cause concern but cannot guarantee this without further testing.

FAQs CONTINUED

CARING FOR YOUR VIRUSTATIC SHIELD

Can I wash my Virustatic Shield?

Yes. We recommend a maximum of three hand washes in warm water without detergent. Washing will restore its original shape and fit after prolonged use.

How often should I wash my Virustatic Shield?

You can wear the shield for up to 50 hours before having to wash it. Washing guidance is dependent on the application - you do not have to wash the Shield after each wear, but if you are working in a dirty environment you may have to wash more frequently than 50 hours. We recommend that the Shield is not washed more than 3 times.

The recommendation of washing the Shield every 50 hours for a maximum of 3 times, gives the Shield a wear time of 200 hours. Can the 200 hours usage be split over any timeframe?

Yes. For example, if you are wearing the shield for 1 hour per day, it will last 200 days (environment permitting).

What should I do with my Virustatic Shield after 200 hours?

The fabric chosen for the Shield was carefully selected after extensive laboratory tests on 20 fabrics. The fabric alone is 84% protective so it will still provide more protection than most fabric face coverings even after 200 hours.

Can I dry Virustatic Shield on a radiator or in a tumble dryer?

We do not advise drying on a radiator or in a tumble dryer. Air dry naturally. High temperatures can damage the anti-viral coating. For this reason, we also recommend that you do not iron your Shield.

Can I dry clean my Virustatic Shield?

No. We do not recommend dry cleaning your Virustatic Shield.

How does it need to be stored when not in use?

The Shield should be stored in clean, dry conditions within the temperature range of – 20°C to + 40°C with a maximum relative humidity of <80%.

Is the Virustatic Shield hazardous to dispose of?

No. The product is non-hazardous, so safe to dispose of via general waste disposal. For environmental considerations, we recommend disposing via a textile disposal scheme.

FAQs CONTINUED

VIRUS PROTECTION

Will the Virustatic Shield stop me infecting other people?

Virustatic Shield helps by offering two-way protection. It can protect others from harmful viruses that you may breath out. If you cough or sneeze, Virustatic Shield cuts the risk of spreading infection and because of the snood design, there will be no escape of virus-laden aerosols around the sides of the Shield. You should combine the Shield with strict personal hygiene.

Will the Virustatic Shield provide 100% protection against viruses?

The Virustatic Shield is an anti-viral face covering with protective features. It was has been designed to provide protection against viruses and has been proven to be over 96% effective against the H1N1 influenza virus. In June 2020, laboratory tests by independent scientists from VisMederi at the university of Siena have also found that the Viruferrin™ protein compound inhibits SARS-CoV-2 at a cellular level. This is the exact strain behind Covid-19. This Shield is the only face covering available that has a protective Viruferrin™ coating. Please note, no device can guarantee 100% protection against viruses. The Virustatic Shield effectiveness is improved when used alongside the World Health Organization (WHO) issued hygiene guidelines.

Does the moisture from washing your Shield in cold or warm water increase the risk of spreading the Influenza virus?

Generally speaking, viruses are transmitted through mucus coughed, sneezed and breathed out when talking or breathing. Humidity has a big impact on virus lifespan post exposure to the environment outside of the body. The drier the surface or the environment the quicker the mucus dries out and the virus is disabled. As far as water is concerned, the virus can be transmitted through water whether it is hot or cold. Temperature will have an impact and can be used as a method for virus elimination (i.e. taking it up to boiling point) - some will even survive this.

We are proposing a hand rinse wash in warm water to protect the coatings from being washed off until testing has proven that washing in higher temperatures and for numerous times does not have a negative effect on the performance of the coating.

The Shield, when in contact with the virus, is designed to either bond and/ or disrupt the viral lipid envelope therefore, the virus will not be actively moved around the Shield's surface. This is a key differentiator from hydrophobic masks that when washed will indeed increase the risk of the viral spread.

FAQs CONTINUED

What kind of complex protein coating is the Shield embedded with and how does normal skin react to that?

The protein is called Viruferrin™, it was originally developed for flu pandemics and has been proven to inhibit SARS-CoV-2 at a cellular level. We do not believe normal skin reacts adversely with the coating. Viruferrin (TM) contains natural, multifunctional proteins that are part of the innate human immune system. The coatings have GRAS (Generally Regarded As Safe) certification for other applications for use with humans and we would not expect allergic reactions. However, should someone demonstrate an allergic reaction we would advise immediate removal. The manufacturer would also expect to be contacted and the product returned through its quality procedure. Laboratory testing would be actioned by the manufacturer to ensure the product meets with specification and provide feedback accordingly.

Does the Virustatic Shield have the same anti-viral resistance under heat and potentially with a lot of humidity such as facial sweat?

Avoid temperatures in excess of 40°C and conditions with high humidity. The manufacturer does not have evidence of facial sweat having a negative impact on the performance of the coating, but cannot guarantee this without further testing.

How else can I protect myself against viruses?

Wash your hands frequently with soap and clean water. Cough and sneeze into a paper tissue and dispose of it immediately. Avoid touching your eyes, ears, nose and mouth.

What is the Virustatic Shield made from?

The product has been designed and laboratory tested on many different materials to determine the most effective textiles for the purpose of hydrophilic barrier protection. Two different material types were selected - Bamboo and Viscose, as they both meet with the tested performance requirements which in the current climate provides supply chain security. We are using Elastane blends with both materials to deliver the stretch characteristics required to enable the Shield to securely fit and mould to the user's face.

APPROVALS & CERTIFICATION

Will the product have CE class I (FFP 1) or CE class II (FFP 2) approval?

No, due to the innovative technology used, the product sits outside of the EU standards. Virustatic Shield is not PPE, so does not require CE marking or classification. Please be assured, this in no way changes the proven anti-viral capability of the product and the Virustatic Shield will continue to adhere to any regulatory changes as required.

SHIELD SECURITY

Each Virustatic Shield has a unique serial number, linked to a QR code on its label. This protects against fakes. Download any QR reader and scan that code to check it's the genuine article. Also check the colour shift ink on the label by rubbing until it disappears.

ORDERING INFORMATION

PRODUCTS	
Product Number	Product Name
AVM96	Virustatic Shield

CERTIFICATION

The UK's trade association for the safety industry, the British Safety Industry Federation, confirms Virustatic Shield's classification as a 'face covering'.

Manufactured in the United Kingdom in an ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007 certified plant. Manufacturers Certified STANDARD 100 by OEKO-TEX®.

Important information

All information and specification details contained within this document are inherent to this specific Virustatic product and would not be applied to other products or environment. Any action or usage of this product made in violation of this document is at the risk of the user.

Compliance to the information and specification relative to the Virustatic product contained within this document does not exempt the user from compliance with additional guidelines (safety rules, procedures).

Notes...

Notes...

SETTING THE GLOBAL STANDARD FOR OVER 160 YEARS

Protecting over 1 million lives across the globe every day, our critical safety and survival solutions help marine, aviation, offshore, and defence personnel get home safely if the worst happens.

Taking responsibility for the entire product lifecycle – from precision engineering and R&D, to manufacturing and servicing – we never compromise when it comes to safety and survival. Committed to protecting lives, we know the small things matter.

V3



GET IN TOUCH

Email info@survitecgroup.com

www.survitecgroup.com

Head Office, 12 Finsbury Square, 4th Floor
London, United Kingdom, EC2A 1AS