

Product information sheet Livinguard Mask Pro



SWISS
TEXTILES 

Product description

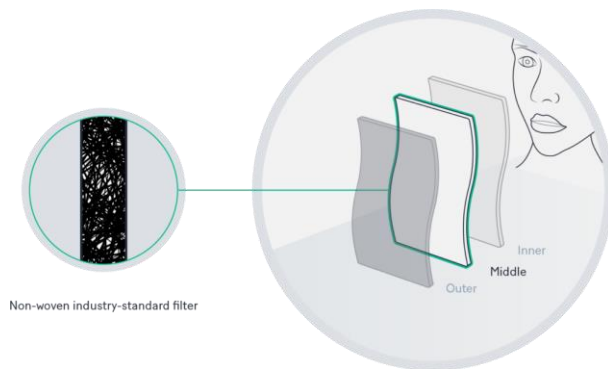
The Livinguard mask protects against SARS-CoV-2 (the virus that causes COVID-19). With its revolutionary and patented virus inactivation technology, this mask protects infinitely better than conventional masks.

This unique mask is composed of 3 different layers:

Both the outer and inner layer are treated with the Livinguard Technology. The treated cotton fabrics inactivate >99,9% of viruses and bacteria that come in contact with the mask, thus allowing safer handling.



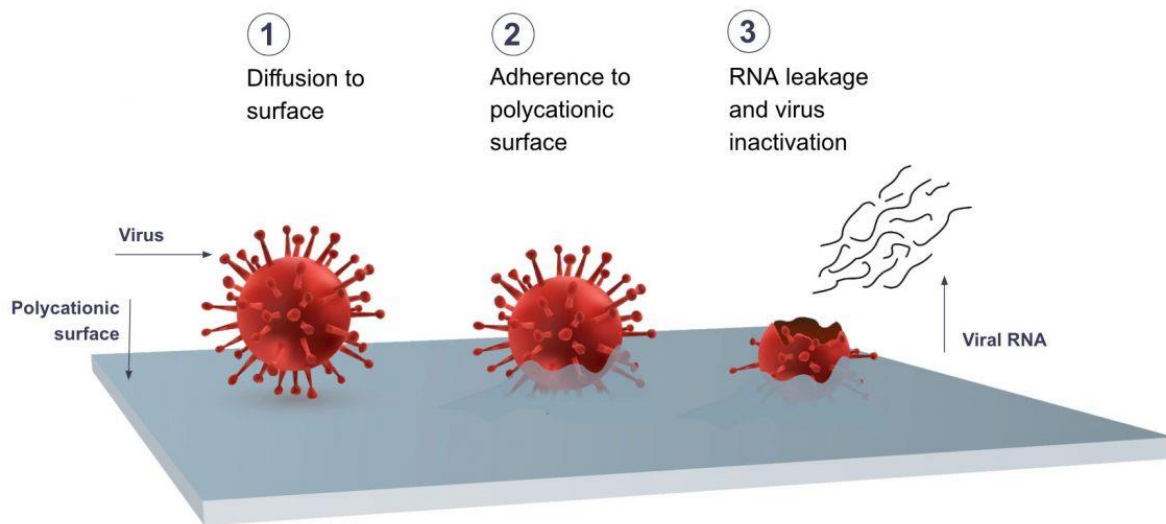
The middle layer is a non-woven industry standard filter according to EN 14683:2019 with a filtration efficacy of at least 95%.



Medical Face Mask Type I
Bacteria Filtration Efficacy (BFE) >95%

The masks are medical devices and are used, for example, on patients and medical staff to reduce the risk of infection spreading in epidemic and pandemic situations.

How do viruses and bacteria get destroyed upon contact with the patented fabric?



Fabrics treated with Livinguard Technology have approximately 24 billion positively charged ions per square centimeter. This acts like a magnet and causes the negatively charged viruses and bacteria to adhere.

On contact with this polycationic surface the bacterial and yeast cell walls and the viral protein capsids or envelopes are disrupted, and the now harmless insides leak out and disintegrate.

This operating principle is a known physical effect and has been described in scientific literature for two decades.

Bacteria and viruses, including coronavirus, are present in droplets and in some cases on airborne suspended particulate matter. Conventional FFP2/N95 masks are designed only to

filter particulate matter.

The Livinguard mask Pro uses such an industrial standard filter as well, but offers additional protection to the user as well as those around the user by destroying >99% of the microbes on each layer enveloping this filter.

Thus, it protects not only when breathing, but can also prevent infections when putting on and taking off the mask thanks to its special fabrics.

Whereas, microbes can survive and multiply on conventional masks.

Recent studies have shown that SARS-CoV-2 can survive on surgical masks for days.

The greater the exposure to the virus, whether in critical environments like hospitals or when used for extended periods of time and/or reused, the greater the risk of infection.

If the mask were able to destroy the virus and other pathogens powerfully and continuously upon contact, such risk would be mitigated.

Researchers from the Free University of Berlin and RWTH Aachen have now been able to demonstrate that textiles treated with Livinguard Technology can destroy > 99,9% of SARS-CoV-2.

Previously this was already tested and proven in May 2020 at the Department of Environmental Studies at the University of Arizona according to the standard protocol ISO 18184.

A fabric treated with the Livinguard Technology inactivates more than 99.5% of 'Human Coronavirus 229E' HCoV-229E. This is generally considered representative of the effect against SARS-CoV-2.

SARS-CoV-2 viruses were not readily available for such testing at the time.

The ISO 18184 protocol is the primary international standard for testing the antiviral properties of a textile.

Various tests have confirmed the antiviral and antibacterial effects of the Livinguard mask. Please see the supplement sheet for an actual overview.

Some other masks rely on a metal leaching antibacterial technology using silver, copper, or zinc. However, their antiviral effect is very small.

What is the revolutionary invention of Livinguard?

The Swiss company Livinguard AG has invented and patented a proprietary method of embedding positively charged compounds on the surface of the treated textile, combined with other properties, such as water repellency and hydrophilicity.

This **long-lasting** effectiveness is unique; its protective properties are maintained even in the wash, when the mask is used as recommended (please see maintenance instructions).

This lack of leaching is the underlying reason why the antimicrobial performance is so durable.

Only after 30 washes does the inactivation effect begin to diminish slightly.

In addition, the textiles are specially treated to apply Polyhexanide (PHMB) molecules to the fabric.

PHMB is known for its excellent antimicrobial effect against a wide range of germs and has proven to be an effective and well tolerated antiseptic due to increasing antibiotic resistance.

Why does the fabric not lose its disinfecting protective effect after contamination with viruses and bacteria?

The textile surface 'reactivates' itself constantly.

Once the microbes are destroyed, they no longer adhere to the fabric.

The positive charges to which they were previously attached are released again.

This means that the fabric retains its revolutionary inactivating power unchanged, it does not discharge.

How safe is the contact with Livinguard treated surfaces?

Livinguard has successfully passed extensive skin safety testing, including at the Hohenstein Institute in Germany and at Product Safety Labs in New York per US EPA standards:

- Dermal toxicity
- Skin irritation
- Dermal sensitivity

The treated fabrics maintain their protective qualities without leaching harmful substances and without damaging human DNA during wearing and washing.

The PHMB used by Livinguard is not classified as Carc.2 H351 and therefore not carcinogenic, and has a content of <0,1% on the mask.

Further tests document the non-toxicity and environmental friendliness according to strict European standards.

Livinguard's technology can't penetrate the dermis. Hence, it only affects the transient flora, or 'bad' bacteria in the epidermis.

Why does Livinguard deserve your complete trust?

The Livinguard Technology is based on 5 years of research work and is protected by over 160 patents, for example by WO2018 / 036890 for face masks.

The polycationic surface neutralizes bacteria and viruses by inactivating their structure. It is done safely and in a way that avoids any resistance being developed.

The 'Product Safety Lab' in the USA has certified Livinguard as 100% safe.

No metal-based active ingredients such as silver, copper, zinc etc. are used, because inhalation and skin contact of these ingredients can be harmful and reprotoxic in the long run. In contrast, the Livinguard Technology is safe for skin and lungs.

The Livinguard mask Pro is certified by the Hygcen Institute as Medical Face Mask Type I according to EN 14683:2019 (see report no. B 24508).

The product was engineered and designed in Switzerland, and is produced in the EU.

Why is the Livinguard mask extremely competitive compared with other masks on the market?

The Livinguard mask can be washed and reused.

After approximately 7 days the mask should be washed for hygienic reasons. With 30 washes this corresponds to 7 months of use, effectively replacing the need for 210 single-use FFP2/N95masks.

This makes the mask significantly cheaper than most disposable masks on the market.

Comparison with other masks on the market

	Fabric mask	FFP mask	Silver ion mask	Livinguard mask
Reusable	✓	○	✓	✓
Washable	○	X	✓	✓
Protects the environment	✓	X	✓	✓
High filtration	X	✓	○	✓
Cost-efficient	X	X	○	✓
Neutralizes viruses and bacteria	X	X	○	✓
Overall assessment	X	X	X	✓

Comparison according to the latest knowledge and state-of-the-art technology.

Instructions for use and fitting

Must be followed each time the face mask is worn. Protection improves by following instructions closely!

1. Fix the straps to your ears and adjust the variable elastic bands to fit the face mask comfortably.
2. Adjust the nose bridge bar to fit tightly around your nose.
3. To check the fitting, place both hands completely over the mask and exhale sharply. If air leaks around the nose, readjust the nose bridge bar as described in step 2. A correctly fitted nose bridge bar also helps to avoid fogging of eyeglasses.
4. The mask should cover the wearer's mouth, nose and chin.

Mask maintenance

- The mask has to be stored in a clean packing, protected from sunlight and from extreme temperature.
- Under normal usage conditions the mask needs to be hand washed only once a week in cold water (max. 30 °C) for about 2 minutes to remove dirt and sweat.
- Do not use detergent or bleach; a mild soap can be used.
- Do not wring, rub or press.
- Do not dry clean or use disinfectants.
- Line dry in shade, do not iron or blow-dry.
- The mask can be washed up to 30 times as outlined above without diminishing efficacy of its protective power.

Size and Color Indications

Size M is suitable for a small, slim face (fits most women and older children).

Size L is suitable for a medium sized face (fits most men).

Size XL is suitable for a large, round face.

Colour of the outer cotton fabric layer: available in blue or black (further colours will be available soon).

Colour of the inner cotton fabric layer: light grey.

Technical properties

The mask fulfills the following requirements, valid up to 30 washes:

- Breathability (differential pressure) according to IS 16289:2014 Annex C.
- Splash resistance according to ASTM F1862/F1862M-13.

Materials and environmental protection

Component	Material
Outer and inner fabric layer	100% Cotton
Filter	100% Polypropylene

The biodegradability of the textile is not prevented by the Livinguard-Technology. Furthermore the environment is protected from disposed non-biodegradable filters and significantly less avoidable waste is created.

Storage and transportation

- Hygienically individually packed in a poly bag inside a folded box.
- Date of manufacture on the packaging, unopened at least 12 months guarantee for > 99,9% inactivation of microorganisms.
- Store in clean, dry conditions within the temperature range: -10 to +25°C with a maximum relative humidity of 80%.

Warnings and restrictions of use

Not for respiratory protection in case of unknown atmospheric pollution or concentration.

Do not use the Livinguard face mask to protect against chemicals, gases, vapours, oil aerosols, oil based particles or extremely high particulate concentration.

This face mask does not eliminate illnesses, diseases or infections, and is intended for general public use, not for surgical use.

There is still a residual risk of infection despite the mask; the recommended careful personal hygiene measures, especially washing and disinfecting hands thoroughly, must always be observed.

UVC-devices do not damage the mask.

This face mask does not supply oxygen. Do not use in atmospheres containing less than 19.5% oxygen.

Individuals with a compromised respiratory system, such as asthma or emphysema, should consult a physician and complete a medical evaluation prior to use.

Never substitute, modify, add, or omit parts.

Discard and replace the mask, if damaged.

Only use your own mask.

Not recommended for children under the age of 7.

All Information from original sources of Livinguard AG and from freely accessible internet sources.

Partly translated from German into English, subject to errors.

Date: September 2020



**ULTRA
PRO**

Conforms to: EN14683 Medical Mask Type II

Conforms to: EN14683 Medical Mask Type I

Livinguard Technology - Proven Antiviral Properties:

Type of Virus	Test Facility	Viral Inactivation %
SARS-CoV-2	Freie Universität Berlin, Germany	99.9%
Human Coronavirus 229E	University of Arizona, Tucson, USA	99.5%
Influenza A	Federal Office for Civil Protection, FOCP, Switzerland	> 99.96%
Yellow Fever	Federal Office for Civil Protection, FOCP, Switzerland	> 99.97%
Bacteriophage MS2	BTS, Mumbai, India	> 99.99%

Livinguard Technology - Antibacterial against a wide range of bacteria, for example:

Escherichia coli, *Staphylococcus aureus*, *Candida albicans*, Multidrug-resistant *Enterococcus faecium* (VRE - ATCC 51559), Methicillin-resistant *Staphylococcus aureus* (MRSA - ATCC 33591), *Mycobacterium tuberculosis* (ATCC 25177), *Klebsiella pneumoniae*, *Clostridium difficile* (*C. diff*), *Mycobacterium terrae*, *Mycobacterium avium*, *Salmonella Typhi*, *Pseudomonas aeruginosa*

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Akkreditierte
Prüfstelle nach
EN ISO 17025



Certificate

Livinguard AG
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Pro Mask, Typ I

had been **tested** according to

EN 14683:2019

„Medical face masks - Requirements and test methods “
inclusive appendix B, appendix C

The conformity with these requirements
is confirmed by the test report number: B 24508

Identification Number: 2024508/074

Bischofshofen, 2020-06-22

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