HeiQ launches high-tech mask featuring ground-breaking copper technology shown to deactivate the COVID-19 virus in five minutes

Global leader in textile and materials innovation, HeiQ, launches HeiQ MetalliQ, a futuristic-looking, high-tech surgical mask that destroys all viruses and bacteria tested, up to 100% efficacy.

HeiQ MetalliQ doesn't only *look* metallic. The mask with a patented design actually contains an ultra-thin pure copper coating applied via a high-tech vapor deposition process, called HeiQ MetalliX, which converts a minute amount of copper into vapour, allowing it to be deposited evenly to surround each fibre. HeiQ MetalliX is a patent-pending technology, created by HeiQ's innovation partner, Australian materials technology company, Xefco.Studies conducted by the Peter Doherty Institute for Infection and Immunity in Melbourne, Australia (Doherty Institute) showed that fabrics treated by the HeiQ MetalliX technology significantly deactivated the infectious SARS-CoV-2 virus (the virus that causes COVID-19) in as little as 5 minutes.

The testing protocol simulated the real-life interaction of aerosol droplets contaminating textile products such as face masks. Each sample was exposed to a high loading of SARS-CoV-2 followed by 5, 15 and 30 minutes incubation at room temperature before the amount of remaining infectious SARS-CoV-2 viruses was measured. The fabric samples treated with HeiQ MetalliX indicated a virus reduction of over 97.79% in five minutes, 99.95% in 15 minutes and over 99.99% in 30 minutes, relative to the inoculum control.

"Our team of experts continue their vital work to minimise the impact of the novel coronavirus." Dr Julie McAuley, Senior Research Officer at the Doherty Institute, stated, "testing the ability of different surface treatments to reduce infectivity of the SARS-CoV-2 virus is one way that our research can help provide insights towards helping to stop the spread of COVID-19", Dr McAuley added.

Copper is a naturally occurring element, present in the earth's crust, soil, oceans, lakes and rivers. It is also a trace element that occurs naturally in all humans, plants and animals. The antiviral, antibacterial and antifungal properties of copper have been known for centuries and have been demonstrated by many laboratory studies. HeiQ MetalliX treated materials release copper ions which deactivate viruses and bacteria. Treated materials have also been tested to kill 100% of Staphylococcus aureus and Klebsiella pneumoniae and deactivate 99.95% of H1N1 virus and 99.9% of Human Coronavirus 229E.

Made in EU, HeiQ MetalliQ is manufactured in HeiQ Medica in Spain where HeiQ also conducts R&D activities for medical devices. Throughout the development of the HeiQ MetalliX technology, Xefco worked closely with long-standing research partner the Institute for Frontier Materials (IFM) at Deakin University as part of the world-class ARC Research Hub for Future Fibres, of which HeiQ is also a member.

"You can pretty much 'heiq' everything to add additional functions to an every-day product. This time we up our game once again in antiviral protection, with an upgraded and premium appearance. Spring is calling. As we emerge from lock-down we want to be extra protected and protect the others. HeiQ MetalliQ is designed exactly to provide that extra level of confidence. Further, it gives an edgy look, making it an improved alternative to surgical masks in many ways," says Carlo Centonze, co-founder and CEO of HeiQ Group.

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Pathogen name	Testing institute	Reduction of infectious pathogens	Contact time until measurement
SARS-CoV-2 (the virus that causes COVID-19)	Peter Doherty Institute for Infection and Immunity	97.79%	5 minutes
		99.95%	15 minutes
		99.99%	30 minutes
Influenza A virus (H1N1)	Situ Biosciences	99.95%	As per ISO 18184 standard
Human Coronavirus (229E)		99.9%	As per ISO 18184 standard
Staphylococcus aureus	Microbe Investigations Switzerland (MIS)	100.00%	As per ISO 20743 standard
Klebsiella pneumoniae		100.00%	As per ISO 20743 standard

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Images: HeiQ MetalliQ Type IIR surgical mask with an antiviral copper coated surface that deactivates 97.79% SARS-CoV-2 in five minutes. (image from HeiQ)

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About HeiQ

Founded in 2005 as a spin-off from the Swiss Federal Institute of Technology Zurich (ETH) and listed on the London Stock Exchange Main Market (LSE:HEIQ), HeiQ is a leader in textile innovation creating some of the most effective, durable and high-performance textile technologies on the market today. HeiQ's mission is to improve the lives of billions of people through pioneering textiles and materials innovation. Combining three areas of expertise – scientific research, specialty materials manufacturing and consumer ingredient branding – HeiQ is the ideal innovation partner to create differentiating and sustainable textile products and capture the added value at the point of sale. With a total capacity of 35'000 tons per year HeiQ manufactures in the USA, Switzerland and Australia supplying its specialty chemical products in over 60 countries worldwide.www.heiq.com

About Xefco™

Xefco is an Australian-owned company that creates innovative textile and coating technologies. Leveraging a global network of research partners, Xefco develops advanced manufacturing solutions and applies cutting edge materials science with a focus on functional improvements, sustainable manufacturing and reduced resource consumption. Incorporated in 2018, Xefco's technologies are now used by some of the world's leading technical apparel and fashion brands, providing proven functional benefits, enhanced performance, comfort and protection with reduced environmental impact. Xefco continues to expand its technology portfolio with a vision to create a more sustainable future for the textile and garment industries. www.xefco.com

About the Doherty Institute

Finding solutions to prevent, treat and cure infectious diseases and understanding the complexities of microbes and the immune system requires innovative approaches and concentrated effort. This is why the University of Melbourne – a world leader in education, teaching and research excellence – and The Royal Melbourne Hospital – an internationally renowned institution providing outstanding care, research and learning – partnered to create the Peter Doherty Institute for Infection and Immunity (Doherty Institute); a centre of excellence where leading scientists and clinicians collaborate to improve human health globally.
www.doherty.edu.au

About Deakin University

The Institute for Frontier Materials (IFM) is a leading materials science research institute at Deakin University, Australia. With about 300 academics and HDR researchers, IFM's vision is to lead and inspire innovations in materials science and engineering that have a transformational benefit to society. Established in 1974, Deakin is one of Australia's most progressive and agile universities, leading in the innovative use of digital technologies and online learning, and blending this capability across its distinctive campus precincts in Melbourne, Geelong and Warrnambool. Deakin has achieved a balance of high-quality research with an education experience that is consistently rated as one of the best in the country. Ranked among the Top 1 per cent of universities in the world, Deakin's collaborations emphasise mutually beneficial partnerships and real-world impact in areas of high national priority, including health and wellbeing, smarter technologies, sustainability, advancing society and culture, and building safe and secure communities. www.deakin.edu.au

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