



PaperGard

ANTIMICROBIAL PROTECTION
BY JAMES CROPPER

JAMES CROPPER'S PAPERS WITH ANTIMICROBIAL TECHNOLOGY EFFECTIVE AGAINST FELINE CORONAVIRUS



With hygiene being front-of-mind for government, business leaders and the public alike, James Cropper's papers with PaperGard antimicrobial technology have been tested against Feline Coronavirus, with favourable results.

Recent studies show Coronaviruses can remain viable on metal, glass, wood, textiles, plastic and paper surfaces from several hours to a number of days¹. Whilst the viability of Coronaviruses is not strong on paper compared to other surfaces, with in-built anti-microbial protection the level of risk of cross-contamination from people's hands is significantly reduced.

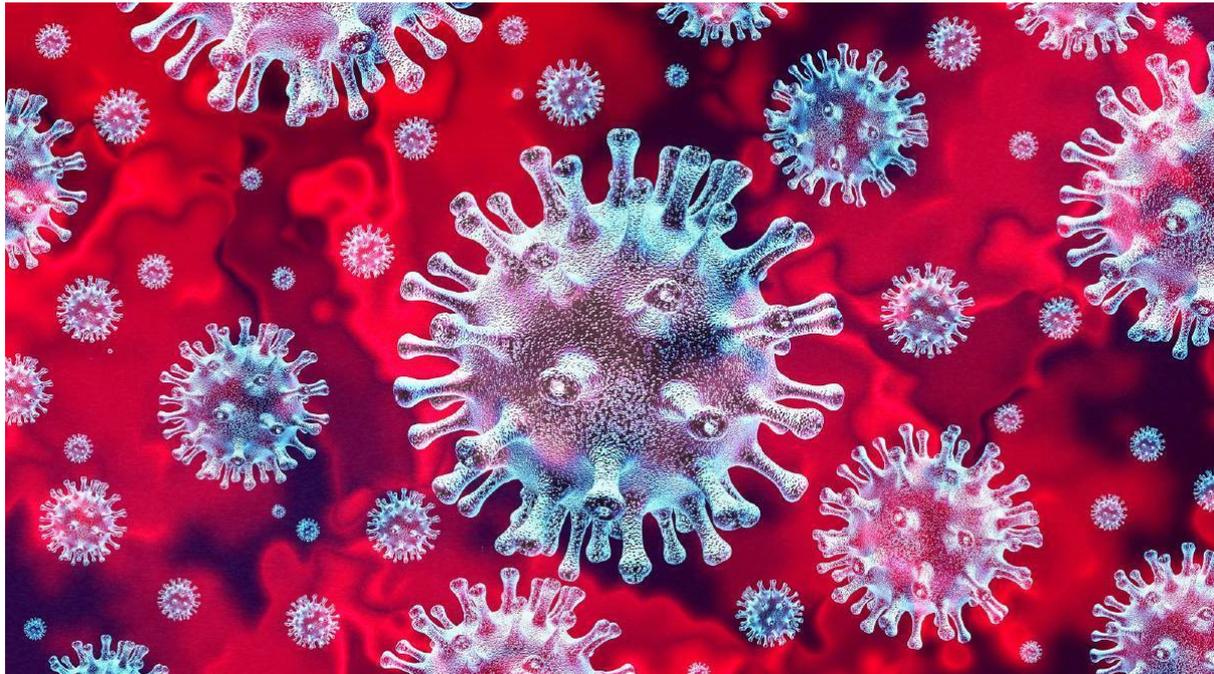
James Cropper is expert at applying silver ion technology to paper, with antimicrobial papers having been a part of the product portfolio since 2006. PaperGard offers product protection for the lifetime of the

¹ New England Journal of Medicine: [telegraph.co.uk/health-fitness/body/does-coronavirus-live-different-surfaces/](https://www.telegraph.co.uk/health-fitness/body/does-coronavirus-live-different-surfaces/)



paper, incorporating Biomaster® antimicrobial technology from the UK's leading additive specialist, Addmaster.

The technology, when applied to paper, is known to be highly effective against pathogens such as MRSA and E-coli and following rigorous testing by an independent laboratory, its viral efficacy against Feline Coronavirus has been proven. In testing, the PaperGard protected papers were proven effective at reducing the viability of the viral strain by over 95% in only two hours.



Addmaster regulatory affairs manager Lesley Taylor explains: "Feline Coronavirus and Covid-19 are members of the Coronaviridae family of viruses which cause a broad spectrum of animal and human disease.

"This group of viruses are enveloped and rely on a protective lipid coating and are amongst the easiest types of virus to deactivate. Biomaster has yet to be tested against Covid-19 on product surfaces and currently there is not yet a suitable method validated for Covid-19, however the result clearly demonstrates the antiviral efficacy of silver ion technology against a member of the Coronaviridae family."

Coronaviruses are relatively easy to destroy with simple disinfectants which break the delicate envelope that surrounds the tiny microbe. However, these topical sanitising products are only effective for a short period before cleaning needs to re-occur, and not always practical on paper products. The silver ion treatment in PaperGard is incorporated into the paper during manufacture; it cannot be removed with any amount of wear and tear. It becomes an integral part of the material.



Richard Bracewell, marketing and technical director at James Cropper comments, “This innovation addresses demand for cleaner surfaces. PaperGard allows paper products exposed to high touch volumes to in effect ‘self-sanitise’, without affecting the appearance or performance of the paper itself.

“The silver ions present within the paper continually work to prevent the growth of the micro-organisms, effectively reducing contamination levels on the surface.”

Whilst PaperGard has been regularly used for the production of medical and healthcare documents this technology can be applied across the portfolio of paper products manufactured by James Cropper, including papers and boards for premium packaging or greetings cards that are subject to a lot of handling.



How PaperGard works:

1. Silver ions bind to the cell wall of the micro-organism; preventing growth
2. The silver ions interrupt enzyme production; stopping the microbe from producing energy
3. Silver ions interrupt the cell's DNA; preventing DNA replication and new cell formation
4. This process does not allow the micro-organisms to develop any resistance

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NOTES TO EDITORS

About PaperGard

What is the science behind PaperGard paper?

Unlike antibiotics, micro-organisms are unable to build up a resistance to the way in which silver ions disrupt their growth.

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2. Silver ions interrupt enzyme production; stopping the micro-organism producing energy
3. Silver ions interrupt the cell's DNA; preventing DNA replication and new cell formation

How effective is silver ion technology on paper?

In tests and clinical trials the Biomaster treatment has been proven to reduce the overall level of MRSA and E.Coli bacteria on the paper surface by up to 99.99% using the ISO 20743 testing method to determine anti-bacterial activity conducted in an independent, internationally recognised laboratory.

The latest testing with Feline Coronavirus, using the ISO 18184 testing method to determine anti-viral activity, shows papers containing the PaperGard technology were proven effective at reducing the viability of the viral strain by over 95% in only two hours.

Is silver ion technology safe?

Yes. It is based on technology recognised for centuries with no harmful effects and is used widely in medical, food and water applications.

- Non-toxic
- Phthalates free
- REACH compliant
- EN-71 compliant
- Non-leaching

What can silver treatment protect against?

Independent laboratory tests have proven the technology to inhibit the growth of bacteria and viruses including:

- Staphylococcus aureus (MRSA)
- Salmonella
- Legionella
- Campylobacter
- E.coli
- Vancomycin-resistant Enterococcus (VRE)
- Norovirus
- Feline Coronavirus

Can silver ion technology safeguard against Coronavirus?

Testing against the COVID-19 virus is obviously very difficult due to the infectious nature of this virus (and the associated precautions required for handling). Definitive scientific confirmation of activity against this virus will only be available when the strain has been released by the relevant health authorities, and testing conducted.

We do, however, have data showing activity for PaperGard (>95% inactivation within 2 hours) against another coronavirus. The microbiology firmly suggests that if the silver ion technology is effective against Feline Coronavirus on porous surfaces such as paper (which it is), then the active agent will also be highly effective against Covid-19.

How long is the treatment effective for?

The silver ion treatment in PaperGard is effective for the life of the product, it is incorporated into the paper during manufacture and it cannot be removed with any amount of wear and tear. It becomes an integral part of the material.

What's the difference between anti-microbial and anti-bacterial?

An anti-microbial inhibits the growth of, or destroys harmful micro-organisms such as bacteria, viruses and moulds. An anti-bacterial specifically prevents the growth of bacteria.

Does the treatment affect a product in any way?

No. You can't see, smell or even taste it!

What happens if I over-print the product?

Print with minimal surface coverage is absolutely fine. For complete over-printing or overall coating with a varnish we recommend the addition of the treatment into the print or varnish itself. Together with Biomaster we can provide recommendations and solutions for specific conversion processes. We can also produce varnished papers on-site with the PaperGard silver treatment.

About James Cropper

James Cropper is a prestige paper innovator based in the English Lake District, supplying distinct, custom-made paper products to many of the world's leading luxury brands, art galleries and designers.

Throughout 175 years of high-quality paper production, the business has been carefully stewarded and nurtured by six generations of the Cropper family and is renowned globally for individual expertise in colour and fibre innovation.