

CopperShield ASIA



Copper Can Help Fight Flu

CopperShield Asia is a
anti-microbial
newsletter specially
created for healthcare
interest groups

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A UK study has found that copper can kill Influenza A, raising hopes that it may also be effective against other strains of the virus.

The research found that 75 percent of Influenza A are knocked out in 1 hour on a copper surface and almost completely in 6 hours. Stainless steel, on the other hand, still had half a million particles of active Influenza A after 24 hours.

The work, which was led by Professor Bill Keevil from the University of Southampton, was presented at the BIT Life Sciences' 2nd Annual World Summit of Antivirals in Beijing on July 18.

The findings are timely given the current Influenza H1N1, more commonly known as

Swine Flu, pandemic currently sweeping the world.

But even more common forms of flu are a major global health issue. For instance, around a quarter of the U.S. population, roughly 35 to 50 million people, has a flu-associated illness each year, with between 20,000 to 40,000 associated deaths.

The role of surfaces in spreading influenza is now well known. In fact it's been shown that once surfaces are contaminated, fingers can transfer viral particles to up to seven other clean surfaces.

Professor Keevil makes it clear that preventing the spread of any strain of Influenza is a very complex process and no one option is likely to be 100 percent successful.

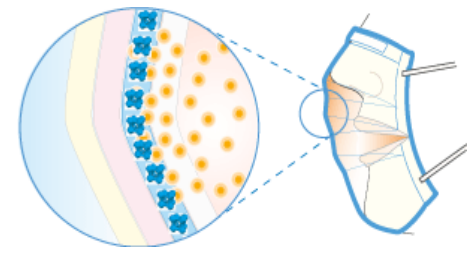
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About BIT Life Sciences' World Summit Antivirals

BIT Life Sciences' World Summit Antivirals (WSA) is a focused event for updating the current advances in worldwide R&D of Novel Antiviral Therapeutics. The attendees represent top-level decision makers from leading biotech, pharmaceutical, and healthcare organizations.

WSA meets demand on expert views, up-to-the-minute industry intelligences, and professional presentations, and poster sessions. WSA also provides an ideal forum for the promotion of relevant companies, products, technologies and services.

WSA 2009 is held at Beijing International Convention Center, Beijing, China on July 18-20, 2009. The theme for this year spells "Meeting the Health Challenges in the Globalization." More information can be found at <http://www.bit-wsa.com/>



Copper infused masks that help ward off infections are available now
[Picture courtesy of NISSINBO.co.jp]

High-Tech Masks Get Copper Treatment

A new microbe killing mask that claims it uses copper and zinc to kill germs on the spot has gone on sale at Asia's leading drugstore chain, Watsons, in Hong Kong.

BioMask™ - previously only available to medical professionals-can kill the H1N1 influenza virus (also known as Swine Flu) as well as a range of pathogens like MRSA, SARS, and Bird Flu according to the manufacturer Filligent Inc.

BioMask™ doesn't just filter the germs, but is designed to kill them on contact and so doesn't need the airtight seal of most conventional masks. And that means it's a better candidate in public areas as there's little risk of mask to hand to body transmission.

One reason that Hong Kong's biggest travel agency, Hong Thai, has agreed to provide the mask free to all air travelers

through the end of August.

But Hong Kong is not alone as Japan already has two companies, NISSINBO and Daiwabo, now selling copper infused masks they say can help ward off infections.

In the Zeolite Mask by NISSINBO, copper ions have been introduced into zeolite, microporous material that is highly absorbent. The mask has been shown to have good antimicrobial effect on a wide range of bacteria and viruses, including the bird flu virus.

Daiwabo's Protecshield also uses copper ions but here they are embedded into nonwoven fabric cloth.

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"There is no single answer to controlling the spread of pathogenic microorganisms," Prof Keevil et al state in the paper.

"The current study shows that copper surfaces may contribute to the number of control barriers able to reduce transmission of the virus."

Get more information from these sources:

- Professor Keevil's paper was just published in Applied and Environmental Microbiology and is available here: <http://aem.asm.org/>
- For a copy of the research report, go to <http://aem.asm.org/cgi/reprint/73/8/2748.pdf>



Professor Bill Keevil, from the University of Southampton, School of Biological Sciences, specialises in medicine, health and life sciences

Designing with Antimicrobial Copper

Interested in using antimicrobial copper in buildings?

Certainly there's a growing interest from architects and designers in how best to use copper, and the copper alloys like brass, bronze, nickel silver and copper nickel, so that it not only looks good, but does good at the same time.

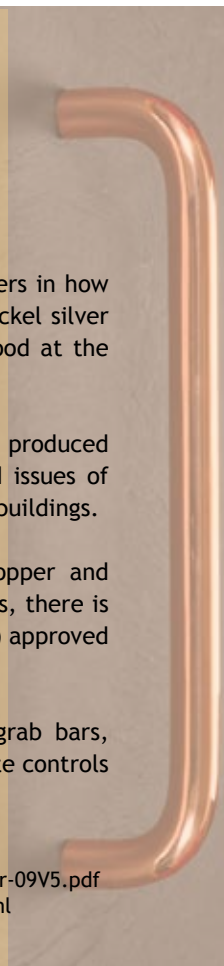
Which is why the Copper Development Association, U.S. has produced a free, two page brochure outlining some of the benefits and issues of working with copper products and materials inside and outside buildings.

As the US Environmental Protection Agency has approved copper and copper alloys as "antimicrobial" and able to make health claims, there is now a growing list of U.S. Environmental Protection Agency (EPA) approved products in America.

These include counter tops, keyboards, railings, doorknobs, grab bars, push plates, bath and shower fixture, call buttons, chairs, remote controls and phones, to name just a few.

More information can be found here:

- <http://www.copper.org.sg/antimicrobial/Architects-AMB-Backgrounder-09V5.pdf>
- <http://www.copperinfo.co.uk/antimicrobial/products/homepage.shtml>



New Antimicrobial Studies Back Copper

Two new, independent papers published in scientific journals this year have both backed an expanded role for copper and copper alloy surfaces in hospital infection control.

A recent paper in the Journals of Materials Chemistry by researchers at University College in the UK provided a detailed look at the role of a range of antimicrobial surfaces in fighting infection in hospital settings.

While the authors focused on light-activated antimicrobial surfaces, the paper also looked at both silver and copper and its alloys as potential infection control materials.

One of the paper's main conclusions was that: ***“One straightforward way to help eliminate microbial spread is to use copper or copper based metals such as brass within a hospital. It would be relatively straightforward for steel push plates on hospital doors to be replaced with brass. These brass plates have been demonstrated to have potent microbicidal properties.”***

The second study, “The Antimicrobial Properties of Copper Surfaces Against a Range of Important Nosocomial Pathogens” by Gould et al, was published in the Annals of Microbiology earlier this year.

This comprehensive scientific review looked at the antimicrobial properties of both copper and stainless steel when measured against a

range of key clinical factors. It showed for the first time that copper surfaces can kill clinical isolates of multi-drug resistant E Coli and VRE as well as isolates of MRSA, CA-MSSA and Pseudomonas aeruginosa in an average time scale of 60 minutes.

The authors concluded that: ***“The results of this study demonstrate that copper has a strong antimicrobial effect against a range of clinically important pathogens compared to stainless steel and potentially could be employed to aid the control of hospital-acquired infections.”***

Both studies confirmed that research on the use of environmental surfaces was now of great scientific interest given that they are believed to play a part in the spread of hospital-acquired infections.

While other preventive measures like hand washing were still seen as highly effective and a priority in any health setting, it is now regarded as only one of the options available in hospitals where contamination levels are very high.

The Journals of Materials Chemistry paper in fact cited a recent study showing that swabs taken in a hospital prior to cleaning detected MRSA on 74% of samples, but still on 66% of swab samples even after cleaning.

Further information is available here:

- 1st Paper - <http://www.rsc.org/publishing/journals/JM/article.asp?doi=b818698g>
- 2nd Paper - http://www.annmicro.unimi.it/abst/59/151-Gould_abst1.pdf

U.S. Hospital Infection Costs Calculated

American hospitals are paying between US\$28 and US\$45 billion a year in direct medical costs to deal with hospital based infections according to a new report from the U.S. Centers for Disease Control and Prevention (CDCP).

Released in March, the paper, “The Direct

Medical Costs of Healthcare-Associated Infection (HAI) in U.S. Hospitals and the Benefits of Prevention”, is one of the most detailed studies done in over a decade.

With nearly 2 million HAI's each year, the CDCP found that prevention could have a major financial impact - varying between \$5.7 to \$6.8 billion (20% of infections preventable for all urban consumers) and \$25.0 to \$31.5 billion (70% for inpatient hospital services).

More information can be found here:

- http://www.cdc.gov/ncidod/dhqp/pdf/Scott_CostPaper.pdf
- http://www.health.state.ny.us/statistics/facilities/hospital/hospital_acquired_infections/





Video, Images & Web Casts

Sometimes a picture really is worth a thousand words.

Which is why there are now a number of videos and visual resources providing summaries of what's happening with antimicrobial copper.

The Copper Development Association, U.S. website has a seven-minute video that provides a great overview of the US scene, with real life interviews, information on

where clinical trials are being held and a summary of what is now known about copper's antimicrobial impact.

The Copper Development Association, U.K. is also producing a whole range of information that can be downloaded free. Apart from a number of videos on the Selly Oak Hospital trial, the world's first, there's background material on all the research findings to date.

Recently they have also added some excellent and informative web casts. Not only are there a couple of web casts on MRSA superbugs and Selly Oak, but there is detailed outline for designers and architects on working with copper and copper alloys.

More information can be found here:

- U.S. >> <http://www.copper.org/antimicrobial/properties/multimedia/homepage.html>
- <http://www.antimicrobialcopperalloys.org/>
- U.K. >> <http://www.copperinfo.co.uk/antimicrobial/>



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Copper is an essential element, meaning that it is an essential inorganic nutrient that is required by both plants and animals in order to live. Copper is also considered a semiprecious metal.

Copper, brass and bronze kill pathogens—including “superbug” MRSA—responsible for hospital- and community-acquired infections.

The U.S. Environmental Protection Agency (EPA) has approved the registration of antimicrobial copper alloys, with public health claims.

These public health claims acknowledge that copper, brass and bronze are capable of killing harmful, potentially deadly bacteria. Copper is the first solid surface material to receive this type of EPA registration, which is supported by extensive antimicrobial efficacy testing.