Trinity College Dublin

Antimicrobial and Antifungal Paint

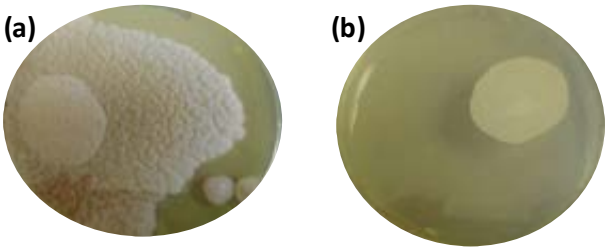
Available for license

Basic overview

In the US alone, more than **99,000** people die each year from healthcare associated infections, with a **$35 - 45 billion** cost to the sector.

Antibacterial paints have been developed to combat this problem, however this has proven to be problematic as a mainstream technology mainly due to the high cost and limited availability of raw materials such as silver. Fungal growth on painted surfaces is also a significant problem for people with compromised health and also for aesthetic reasons.

Researchers at Trinity College Dublin, located in CRANN, have come up with a novel, extraordinary additive for paint to prevent to the spread of dangerous infections and fungi. Our additive is of the **order of 100 times cheaper** than the most commonly used biocide (silver) in the paint industry, and has comparable antimicrobial action and much stronger antifungal action. Another critical feature is that our additive does not affect the colour of the paint.



Fungi proliferation (a) without treatment and (b) with treatment.

Applications

Potential markets include:

- Healthcare
- Food Industry
- Architectural paints
- Childcare facilities

As the additive is **inexpensive** it is not limited to industrial markets. It is suitable for domestic environments and can be used in kitchens, bathrooms, nurseries , living rooms etc.

Technology and patent status

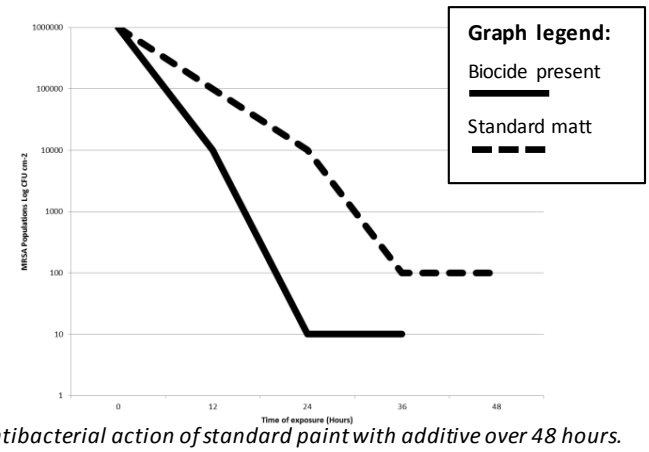
A patent has been filed on this technology.

Advantages

The discovery of this new biocide as an antimicrobial agent has opened a window of exciting possibilities. 24 hour exposure of bacteria to dry painted surfaces leaves microbes unable to grow and spread infection even if they are placed in ideal growth conditions.

Additional advantages include:

- **No colour change** in paint after short term or accelerated aging testing
- Material is **low cost** (per bucket of paint ≈ €1) and is widely available
- **Low toxicity,** the active is not carcinogenic– virtually harmless to humans- should get through BPD easily
- Effective in water based paints– environmentally friendly and favourable
- Complete destruction of many common pathogens including common household fungus and
  - MRSA
  - *E. coli*
  - *P. aueruginosa* (bacteria)
  - *A. fumigatus* (fungus)
  - *R. rubra* (fungus)



Antibacterial action of standard paint with additive over 48 hours.

The opportunity

Opportunities exist to licence this technology. There is a growing market for surfaces with antibacterial and antifungal properties to stop the proliferation of harmful organisms. This is particularly important for premises that house people with compromised health such as; hospitals, nursing homes, childcare organisations, etc.

Inventors: Prof. Igor Shvets and Fionnuala Crowley, Trinity College Dublin
Development: Aoife Gallagher, Technology Development, CRANN Institute ✉ aoife.gallagher@tcd.ie
Commercialisation: Emily Vereker , Technology Transfer Case Manager-Life Sciences ✉ emily.vereker@tcd.ie
www.crann.tcd.ie/Industry-Commercialisation/Available-Technologies.aspx

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