Antimicrobial surfaces and vapours: what does the evidence say?

Intermediate · A few weeks · Free · Project idea

Online version: https://ai-safety-sandbox.vercel.app/projects/antimicrobial-surfaces-review/

Summary

Pick one passive protection technology (antimicrobial surfaces, glycol vapours, hydrogen peroxide systems) and review its safety, efficacy and scalability.

Why it matters

Passive measures work without anyone having to remember to use them. The evidence base is scattered and hard for decision-makers to judge.

What you will have at the end

A structured evidence review.

Ideas to choose from

- Comprehensive review of antibacterial surfaces
- Effects on beneficial bacteria and the microbiome
- Self-cleaning surface technologies
- Testing protocols for antimicrobial surfaces
- Glycol vapour deep-dive: safety, efficacy, scalability
- Vaporised hydrogen peroxide systems
- How long vapours persist in different environments

How to start (tick each box as you go)

- [ ] **1. Read the list of ideas above and pick the one you would most enjoy.**
- [ ] **2. Check the source to see whether someone has already done it.**
- [ ] **3. Scope it down to something you can finish in your available time.**
- [ ] **4. Do a quick first version and show it to someone.**
- [ ] **5. Write up what you made and share it with the source authors.**

Source and links

Hatta & Bazarragchaa — A hundred project ideas in biosecurity (2025)
https://casualphysicsenjoyer.com/Essays+in+progress/Biosecurity/A+hundred+project+ideas+in+Biosecurity

When you have finished

Write a few paragraphs on what you did, what you found and what you would try next, and share it with a friend, your society or online.

Courses, mentors, small grants and communities:
https://ai-safety-sandbox.vercel.app/next-steps/

Questions? Ask in AI Safety Cardiff University (AISCU): https://aiscu.org/

Notes