



TRANSPARENT MULTI-SURFACE COATINGS FOR ENHANCED PATHOGEN CONTROL

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HIGHLIGHTS

- **Uncompromising Protection:** Preserves existing surface properties while delivering robust pathogen control
- **Multi-Surface Safe:** Safely coat a wide range of materials including steel, glass, plastic, surgical masks and HEPA filters
- **Rugged and Shelf-Stable:** Pathogen control and optical clarity maintained after 50 washing cycles and 24 weeks storage

OPPORTUNITY

This innovative technology provides a transparent, self-sanitizing coating based on imidazolium-quaternary ammonium monomers synthesized through nucleophilic addition. Unlike conventional disinfectants that require frequent reapplication, this polymer-based formulation uses rapid UV radical polymerization to create a permanent, contact-active antimicrobial layer. The molecular design balances electrostatic attraction from the cationic moiety with optimized alkyl-chain-driven membrane disruption to rapidly inactivate pathogens upon contact. Lab evaluations demonstrate 2.2–4.0 log reductions in pathogen viability within 10 to 30 minutes, effectively mitigating transmission on high-touch surfaces like kiosks, doorknobs, and medical equipment

COMPETITIVE ADVANTAGE

- **Maintains Device Functionality:** The thin-film architecture (approx. 8–14 μm) ensures excellent touch responsiveness. Application to surgical masks do not compromise filtration efficiency or breathability.
- **Non-Leaching and Metal-Free:** Eliminates the need for silver or metal oxide nanoparticles. An organic polymer system delivers a more bio-friendly, non-leaching alternative that minimizes human exposure to toxic mobile biocidal species.
- **Versatile, Scalable & Industrial-Ready:** Offered as either a spray-applied coating or a removable antimicrobial film, this platform can be readily integrated into existing manufacturing workflows, enabling scalable, high-throughput production and application across rigid, flexible, curved, and replaceable surfaces.

IP STATUS

- Patent Pending
- [Transparent UV-Curable Self-Sanitizing Coatings Applicable to Diverse Surfaces and High-Touch Screens to Mitigate Deadly Pathogen Transmission](#)
- [Layer-Selective Polyelectrolyte Functionalization of Surgical Mask and HEPA Filters for Enhanced Filtration Efficiency and Broad Spectrum Antimicrobial Protection](#)

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MORE INFORMATION

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