Materials & Chemicals

SLIPPERY LIQUID-INFUSED POROUS SURFACES THAT RELEASE HYDROPHILIC AND HYDROPHOBIC AGENTS

View U.S. Patent No. 11,825,845 in PDF format.

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The Invention

The present invention provides materials and methods of making materials, where at least one surface of the material utilizes an emulsion to controllably release active agents, which can include hydrophilic agents, into the surrounding environment. Preferably, the materials are 'slippery' in that liquid droplets and other compounds, such as aqueous fluids, organic compounds and microorganisms, are able to easily slide off the surface without adhering to the surface. The active agents released by the emulsion may include antimicrobial agents, antifungal agents, antibacterial agents and other molecules that can kill or otherwise reduce the number of the pathogens. The resulting materials have improved anti-fouling behaviors compared to many other existing types of anti-fouling surfaces.

Applications

- Non-wetting/slippery surfaces
- Anti-fouling surfaces
- Nano/bio-interfaces to deliver active agents

Key Benefits

- Better retention of slippery and anti-fouling properties
- Sustained release of loaded agents

Tech Fields

- Materials & Chemicals : Polymers

For current licensing status, please contact Michael Carey at mcarey@warf.org or 608-960-9867