



University of Colorado **Boulder**

GREEN DISINFECTANTS RESEARCH

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The need to modernize indoor disinfection practices and associated exposure assessment frameworks is long overdue. There are more than six million non-residential buildings in the US, in which people spend a vast majority of their time working, shopping, exercising and learning. Indoor microbial exposures resulting from pandemics, storm damage, and bioterrorism present threats to our built environment, where urbanization is driving an urgent need for rapid indoor disinfection. Current indoor decontamination practice relies heavily on the aerosol delivery of chemicals to disinfect our built environments, where the most common chemicals applied are surface active agents (AKA: surfactants). Regulatory agencies prescribe occupational surfactant application for disinfecting surfaces, floors, furniture and architectural textiles. While these sanitizers are being applied to control Coronavirus worldwide, no methods or guidelines exist for tracking the fate of these potent chemicals indoors. In response, this work will provide a framework to determine the fate, efficacy, toxicology and (airborne) transport of common surfactants in high occupancy buildings: schools, prisons, health care facilities and transportation hubs.

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