

COVID: Why You Should Stay Away From Alcohol, Bleach

ADELAIDE, SOUTH AUSTRALIA, AUSTRALIA, October 9, 2021 /EINPresswire.com/ -- Using alcohol of bleach to clean household items, including masks, is increasingly common as a potential method to keep COVID at bay. However, new findings by [LupoClean Australia](#) suggest this is detrimental.



Improper use of disinfectants can have negative effects on your health and the environment. That's always been true.

But the pandemic has introduced a new wrinkle: some disinfectants could also hurt the efficacy of your face mask.

In a recent article, researchers from [LupoClean](#) Australia reviewed the scientific evidence on the potential long-term impacts on human health and the environment from improper use of disinfectants. The review also discussed the impact certain disinfectants can have on N95s and cotton face masks and other fabrics, as well as plastic surfaces. Their findings are due for publication in January 2022 in the journal ACS Chemical Health & Safety.

“

We need to be proactive about how we ensure our living environments are safe. Right now, we are being reactive”

Lamar Westbrook

The Abstract spoke with lead author Januka Budhathoki-Uprety, assistant professor of textile engineering, chemistry and science at NC State, and Hannah Dewey, a

graduate student at NC State, about disinfectants and how they could affect the usefulness of our face masks during the pandemic. Representative of LupoClean Australia Lamar Westbrook commented “Quaternary ammonium compounds (QACs) are a group of chemical compounds that serve as active ingredients in hospital and household cleaners, fabric softeners, preservatives, surfactants, cosmetics and other products. Our study shows that QACs deactivate certain bacteria and viruses that have an envelope made of phospholipids, like SARS-CoV-2 (COVID-19)”.

This is a fundamental finding that may not only change the way we clean our household items, but how corporations and government bodies employ [cleaning services](#) to disinfect and maintain work and public places. “We need to be proactive about how we ensure our living environments are safe. Right now, we are being reactive”, said Westbrook.

Researcher Hannah Dewey went on to say: “Research has shown that QACs cause membrane disruption in bacteria and enveloped viruses by binding to the phospholipids. That causes the membrane disruption, and that means leakage of the intracellular components. Basically, this means use different types of cloth for different surfaces matter. This precise and specific level of cleaning previously was unimaginable”.

With the results of the findings quickly coming to light, it calls into question, what do you use to clean your home, car, workplace, items of clothing, including face masks? More than likely, it would be a cotton cloth, after all a cotton cloth is the most available and sold cloth type for cleaning around the world. But is that safe? Lamar Westbrook of LupoClean Australia thinks not.

“You may want to steer clear of cotton. Our studies show cotton and wipes to wipe surfaces with QAC disinfectants decreased the efficiency of disinfectants compared to synthetic materials. We noticed decreases in the available QAC concentration by an average of 85 percent, resulting in a decreased efficacy against bacteria. Basically, the solution is synthetics. We use specific synthetic cleaning apparatus when completing work for our clients. To fight COVID it is the responsibility of us all to share what we know to stop the spread”.

Previously it was thought, and is still widely used, that alcohol and bleach were the best way to clean surfaces and guarantee sterilisation. A growing number of people are also using both products to clean N95 or cotton face masks (the two most common type of face mask currently sold). LupoClean Australia goes on to clarify the safety of doing just this, and whether it is effective. James Christensen, representative and head of research of LupoClean Australia, states:

“N95 masks are effective because the materials are combined to provide mechanical and electrostatic entrapment of particles. Use of chemical disinfectants is not a standard method of N95 mask decontamination. If someone were to attempt to decontaminate an N95 mask with a chemical disinfectant or sanitizer with alcohol, bleach, or other disinfectants, it could have a huge impact on the mask performance. Same goes for cotton. Just don't do it and use a synthetic cleaning agent instead.”

We dug into this further and discovered a study on disinfectant cleaning first published in 1997 by Dr Jon P. Ridley which found decontaminating face masks using alcohol and bleach can reduce N95 masks' filtration efficiency, mainly due to reduction of charge density on N95 filters. Additionally, this study suggested that polycarbonates and the impacts of bleach on plastics was of significant importance. Unfortunately, the study received just four citations and was not

circulated past 1997. With this discovery in hand, we presented it to LupoClean Australia and asked for comment on whether they agreed with this study from 1997. We received a statement from Lamar Westbrook of LupoClean Australia, in response:

“Polycarbonates, polystyrenes and polyethylene are used to make different items in our homes like water bottles, food containers, phone cases, eye glass lenses or safety glasses etc. Plastics made up of those polymers can be degraded by chemical disinfectants such as bleach and QACs. Bleach has an oxidative effect on plastics via a chemical process where the plastic polymers change their properties. Some plastic materials are susceptible to degradation upon prolonged exposure to bleach, potentially releasing additives, and shedding micro-plastics into the environment. Our research has shown that if you frequently clean plastic materials and surfaces with certain disinfectants that contain QACs, it can cause damage done to those plastic materials, including surface damage resulting in scratches, where microbes, such as viruses, can hide for a longer period of time.”

So there you have it. The way you have been cleaning your face masks is wrong. The way you have been cleaning your plastic surfaces at home or work, is also at significant risk, too. Overall, the decontamination of masks and living spaces needs to be looked at closely, and what you use to decontaminate them need to be considered. The proper and careful use of these chemicals is extremely important while we are fighting the pandemic to protect our long-term health and the environment.

James Christensen

LupoClean

[email us here](#)

Visit us on social media:

[Facebook](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/553452499>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2021 IPD Group, Inc. All Right Reserved.