How does corona virus kill alcohol: How to choose the safest and most effective dry hand sanitizer in Covid-19

One final note when using an alcohol-based dry hand wash in Covid-19 is that you should not use it when your hands are visibly soiled. If your hands are greasy, sandy or any visible stains, it is best to wash them with soap and clean water. Antiseptic with alcohol in this case

The World Health Organization says that keeping your hands clean and washing your hands often with soap and water or an alcohol-based dry hand sanitizer is still the most effective way to prevent the new corona virus.

While soap and water work to wash away pathogens including the new corona virus, few people know that alcohol can kill or inactivate the virus, based on its " deadly " weakness.

And not everyone has the knowledge to choose an alcohol-based dry hand sanitizer suitable for countless products on the market today.

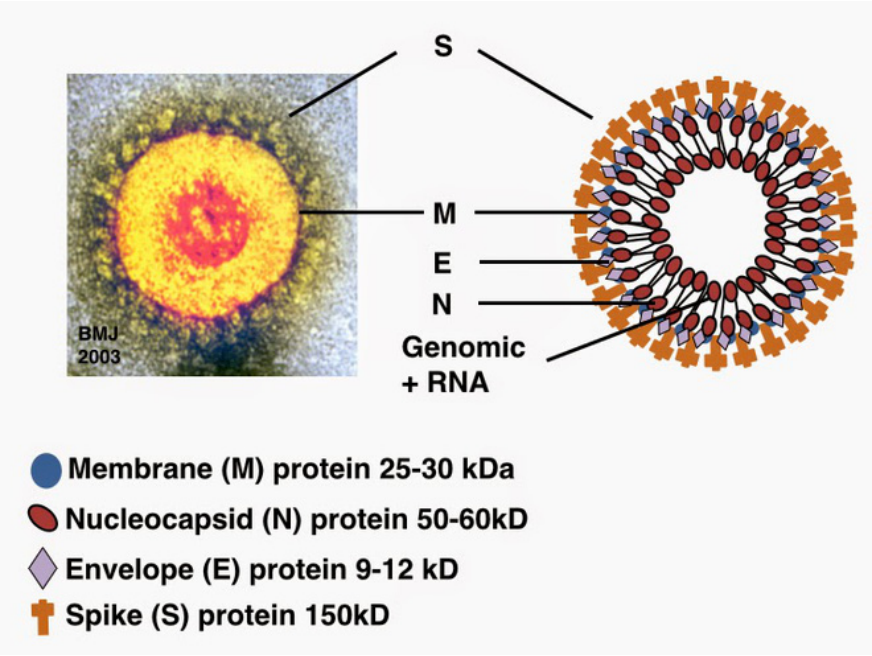
So how do you read the composition of the product? How to choose the concentration of alcohol and other compounds to both kill the virus effectively, ensure safety and reduce dry hands?

1. Alcohol destroy viruses like?

Alcohol like ethanol has been recommended for handwashing to help fight germs since 1888. The World Health Organization defines alcohol-based handwash products as "alcohol-based preparations (liquid, gel) or foams) designed to be applied to the hands to neutralize microorganisms or to temporarily inhibit their growth. Such

preparations may contain one or more alcohol-based chemicals and chemicals. different from medicinal and humectant ".

The alcohol-based substances used in dry handwash are usually isopropanol, ethanol, n-propanol or a combination of two of these products. The antimicrobial activity of alcohol comes from denaturing and protein coagulation. The cells of the microorganism are then broken down and their metabolism disrupted.



The antimicrobial activity of alcohol comes from denaturing and protein coagulation. The cells of the microorganism are then broken down and their metabolism disrupted.

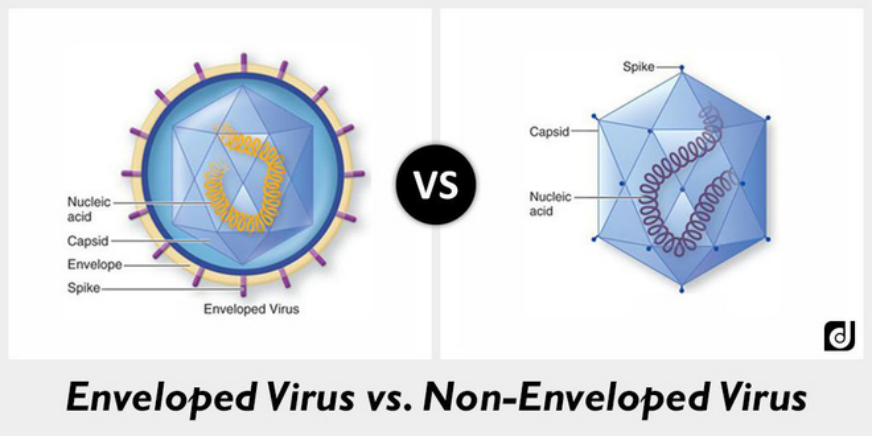
For the new corona virus, it has a " deadly " weakness that can be inactivated when exposed to alcohol. It is the core casing (E). Alcohol can break down this envelope, expose the viral genetic material (RNA) and render it inactivated when it is no longer protected and no spiny receptors (S) are available to infect the cell.

This effect makes alcohol an effective pathogen inactivator against the corona virus family, including the SARS-CoV virus that caused SARS in 2003 and the MERS virus that caused the Middle East Respiratory Syndrome in 2015. .

A study published in the Journal of Infectious Diseases confirms that alcohol-based dry hand cleaners (ethanol and isopropanol) are very effective against enveloped viruses like Ebola, Zika, SARS and MERS viruses.

However, this does not mean that alcohol can kill or inactivate all other viruses. There are some strains of the virus that do not have weaknesses such as the corona virus, such as the Poliovirus which causes polio without sheath.

Therefore, for viruses with only a single layer of genetic material (DNA or RNA) tightly packed with proteins to form a dense particle, alcohol-based hand sanitizers are less effective.



Corona-like viruses (left) are inactivated with alcohol, while non-shingle viruses (right) are resistant to its effects.

This is also the reason why in this Covid-19 epidemic, alcohol-based dry hand sanitizer is recommended. Meanwhile, with many other pathogens, washing hands with clean water and soap is the first and only priority.

2. How to choose a dry hand sanitizer?

According to a scientific paper published by StatPearls, a hand sanitizer containing 60% to 95% alcohol is most effective against germs. The point to note is that higher concentrations give lower efficiency, because the protein of the microorganism is not easily denatured if there is no water around it.

For each alcohol based substance, we have the highest antibacterial effect in the level: ethanol (60% to 85%), isopropanol (60% to 80%), and n -propanol (60% to 80%).

All alcohol-based hand sanitizers are recognized as safe for humans, even for children. But what you absolutely must remember is to keep these products out of the reach of small children, to prevent them from drinking and possibly poisoning.

Some studies show that alcoholics can also find alcohol-based handwash, so you need to pay more attention to this. And flammable alcohol should be avoided near kitchen or high temperature environments.

Speaking of disadvantages, alcohol-based hand sanitizers often evaporate very quickly and easily dry out hands. Therefore, choosing an alcohol-only hand sanitizer is not safe, as alcohol can evaporate before you rub all surfaces and fingers. Effective kill germs then.

You should choose products with a gel or moisturizing ingredient such as Glycerin to increase the time to wash hands and moisturize the skin.

According to the European standard applicable to hygienic hand washing, European Norm 1500, each time you wash your hands with dry hand sanitizer, you need to spray your hands about 3 ml, and rub your hands for at least 30 seconds to cover cover the entire heart, back of hands and between fingers effectively.

Under the visual eye, 3 ml is equivalent to more than half a teaspoon, or when poured out to hand, it is about the size of a penny. Another way to estimate if you have sprayed enough hand sanitizer is to count the number of times you use up a 60 ml bottle. If you can wash more than 20 times, then you have not sprayed enough.

One final note when using an alcohol-based dry hand wash in Covid-19 is that you should not use it when your hands are visibly soiled. If your hands are greasy, sandy or any visible stains, it is best to wash them with soap and clean water. Disinfecting with alcohol in this case is not enough to eliminate and inactivate all pathogens on your hands.