

As the public navigates the countermeasures to the pandemic, clear information on the viability of both 70% alcohol and alcohol-free hand sanitizers is vital for people to stay safe and healthy.

This paper presents a side-by-side comparison of the science, standards and use cases of both 70% alcohol and alcohol-free hand sanitizers.

This information aims to help consumers make informed decisions on the product(s) they choose to use to protect themselves in the ongoing fight against the virus.

KEY TAKEAWAYS:

- Both 70% alcohol and alcohol-free hand sanitizers are safe and effective in the fight against coronavirus.
- Both 70% alcohol and alcohol-free hand sanitizers have passed identical, independently certified European Standard tests, including tests on skin.
- 70% alcohol hand sanitizer is the World Health Organization (WHO) recommended product and offers a faster virus kill time after application than alcohol-free sanitizer.
- Alcohol-free hand sanitizer offers longer protection against bacteria and viruses, so in certain circumstances where someone is exposed for an extended period, alcohol-free should be considered a superior option.

A COMPARISON BETWEEN ALCOHOL-FREE AND 70% ALCOHOL HAND SANITIZERS

	Alcohol-free hand sanitizer ¹	70% Alcohol hand sanitizer ¹	Comments on comparison
Effective against	Bacteria and viruses	Bacteria and viruses	-
Kill time after application	Bacteria – 1 minute Viruses – 2 minutes	Bacteria – 1 minute Viruses – 1 minute	70% alcohol sanitizer has a quicker kill time for viruses than alcohol-free sanitizer, however kill time for bacteria is the same.
Residual defence against bacteria and viruses after application	Up to 4 hours ²	Up to 2 minutes	Alcohol-free sanitizer offers significantly longer protection against bacteria and viruses than alcohol sanitizer.
European Standards	BS EN 1276 ³ BS EN 1500 ⁴ BS EN 14476 ⁵	BS EN 1276 ³ BS EN 1500 ⁴ BS EN 14476 ⁵	Both sanitizers are subject to identical, independently certified testing methods, including tests on skin.
Halal-certified	Yes - certified by the Halal Monitoring Committee (HMC)	No	-
Active substances	Benzalkonium chloride (BKC) and Didecylmethylammonium chloride (DDAC)	Ethanol	Alcohol-free sanitizer is softer on the skin. The active substances do not strip away oils in our skin that retain moisture to the same extent as 70% alcohol sanitizer.
WHO-recommended (as of August 2020)	No	Yes	Alcohol is the most widely available antimicrobial chemical, and breweries have been able to satisfy the extra demand caused by coronavirus. 70% alcohol hand sanitizer is also easy to manufacture, helping the supply chain when demand is high.

1. Cleenol hand sanitizers: Cleenol offer both [70% alcohol and alcohol-free sanitizers](#)

2. Sidney W. Bondurant, Collette M. Duley, John W. Harbell (2019) Demonstrating the persistent antibacterial efficacy of a hand sanitizer containing benzalkonium chloride on human skin at 1, 2, and 4 hours after application. American Journal of Infection Control 47: 928–932

3. BS EN 1276 is a European Standard test method that evaluates the efficacy of a disinfectant against bacteria such as MRSA, *Salmonella typhimurium*, *E. Coli*, *Enterococcus hirae* and *Pseudomonas aeruginosa*.

4. BS EN 1500 is a European Standard test method, required by the NHS, that evaluates the efficacy of a hygienic handrub by measuring the number of viable bacteria remaining on the fingertips of human participants after contamination and handrub exposure

5. BS EN 14476 is a European Standard test method that evaluates the efficacy of a disinfectant against enveloped viruses. Annex A of BS EN 14476 includes coronavirus in the examples of enveloped viruses.