Clinell Product Education
Disinfectant - Alcohol Summary Sheet

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What is alcohol?

Different types of alcohol such as Ethyl and Isopropyl have been used as a low-level disinfectant.[1] Products with high alcohol content (60-90%) work well against bacteria, viruses and fungi, but do not destroy bacterial spores. Alcohol is significantly less effective below 50% dilution.[2,3]

Does alcohol clean or disinfect?

Alcohol is a disinfecting agent. Alcohol disinfectants do not work on dirty surfaces. If any material such as dirt, oils and body fluids are left on the surface then microorganisms can remain active. That's why you must clean before you disinfect with alcohol.[4] **Disinfection with alcohol requires a 2 step process.**

How does alcohol kill bacteria and viruses?

When alcohol interacts with a microorganism, the alcohol figuratively behaves like a wrecking ball against the side of a house. Once the cell has been irreversibly damaged, it is incapable of replicating or causing infection.[4]

What is alcohol best used for?

Alcohol is versatile, as it's a bactericidal, tuberculocidal, fungicidal and virucidal disinfectant. It is fast-acting, non-corrosive and non-staining, and an effective disinfectant for non-critical equipment. Alcohol is also an inexpensive, widely available solution or wipe that leaves no toxic residue, and is predominantly used to disinfect small surfaces and objects.[4,5]

What are the disadvantages of alcohol for surface cleaning?

Fast evaporation

Alcohol evaporates quickly. Disinfectants need appropriate contact times to effectively disinfect a surface (contact times can be anywhere from 10 seconds to 10 minutes). Alcohol isn't a suitable choice for disinfecting large surfaces because it evaporates before contact times have been achieved, allowing microorganisms to survive.[5]

Poor material compatibility

While alcohol is great for non-critical pieces of equipment, prolonged use can lead to equipment degradation such as discolouration, swelling, hardening and cracking of rubber and deterioration of plastics.[5]

Time-consuming

Alcohol does not have any detergent or cleaning properties. To work effectively, alcohol should be used with a detergent during a two-step cleaning process. After pre-cleaning, surfaces must be dried before alcohol is used to disinfect any surfaces, as any remaining liquid can cause the alcohol to dilute.[5]

Disinfectant capabilities

Alcohol lacks the efficacy of other disinfectants and is not active against certain types of viruses, such as norovirus. On some surfaces like stainless steel, alcohol can help fix proteins onto surfaces rather than remove them, making microorganisms harder to remove the next time you clean that surface.[5]

Impractical storage & side effects

Alcohol is highly flammable and must be stored in cool, well-ventilated areas; and depending on the quantity kept on premises, may need secured and fireproof fitted storage. Alcohol products can cause skin and respiratory irritation and need to be kept out of reach of children.[5,6]

References

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