

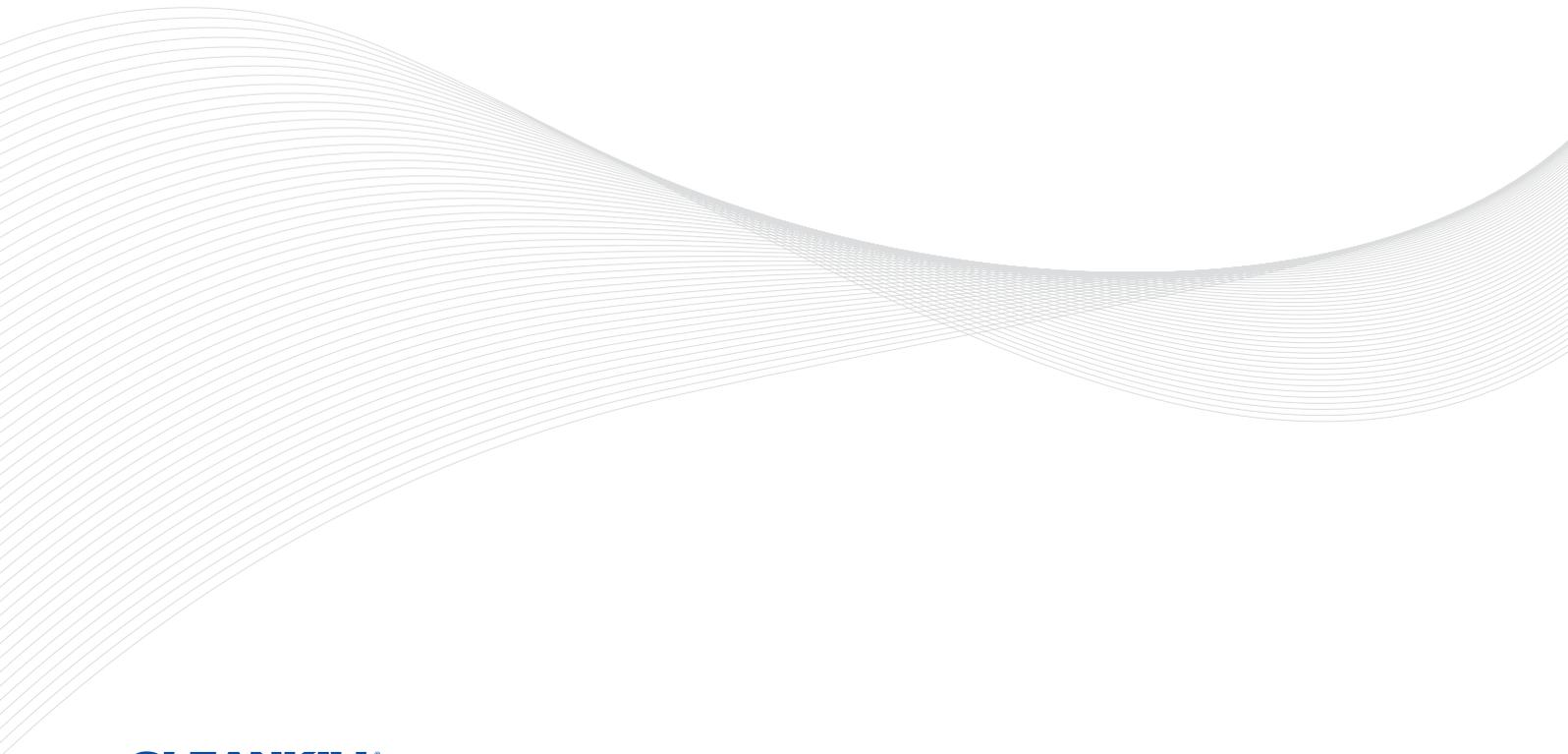
Powerful



Revolutionary

A proactive approach to infection control

Difficil-S® is one of the most powerful
and revolutionary broad spectrum
disinfectants ever developed.



CLEANKILL®
DIFFICIL-S®
The Advanced Disinfection Solution

www.danfloor.co.uk/anti-microbial

danfloor
An Ulster Group Company

Regular Cleaning And Maintenance...

not only protects the aesthetic and functional benefits of carpets but also helps to reduce the possibility of infection from harmful bacteria that may have contaminated the carpets.

Regular vacuuming, stain and spot removal, shampooing and dry absorbent cleaning is all part of our recommended maintenance schedule but none of these procedures entail the use of a proven bactericide to aid with infection control. Danfloor therefore recommends the use of a carpet disinfectant, Difficil-S®, in areas that are at high risk of contamination, for example within areas of care homes where there is frequent movement of residents to and from hospitals or where there has been an organic spill (blood, faeces or vomit).

What is Difficil-S®

Difficil-S® is one of the most powerful and revolutionary broad spectrum disinfectants ever developed and is both safe and simple to use.

Difficil-S®, which is simply added to cold tap water, is used in a low dilution rate so staff & patients do not need to vacate the room. Difficil-S® has a 5-log reduction of 99.999% which kills all known pathogens including:

- MRSA
- *Clostridium Difficile* (including spores)
- Salmonella
- Norovirus
- Listeria
- HIV

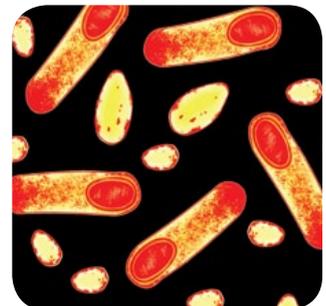
Widely used chlorine-based disinfectants cannot achieve this kill without an extremely strong dilution rate which produces harmful fumes.

Difficil-S® has other major advantages over chlorine-based products in that it will not bleach the carpet* and in killing germs will neutralise any unpleasant smells eg. urine. It is also non-carcinogenic, unlike chlorine which produces carcinogens (cancer causing chemicals), when reacting with organic spills.



How it works

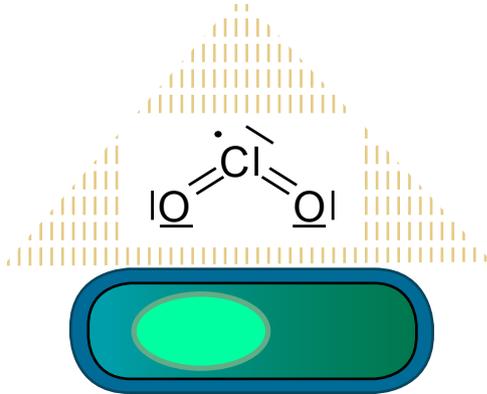
The main component in Difficil-S® is chlorine dioxide which is the chemical used in water purification plants eg. Swimming pools. When Difficil-S® is mixed with water it becomes a dissolved gas which enables it to penetrate the spore cell and kill the bacteria. It achieves the kill by its aggressive chemical structure which actively attacks the pathogen. Chlorine dioxide is a "free radical", as it lacks an unpaired electron in its chemical make-up and is therefore highly reactive. When chlorine dioxide comes into contact with other molecular structures ie. bacteria, it will actively seek any spare electrons in that structure to make itself stable and in the process destroy the bacteria.



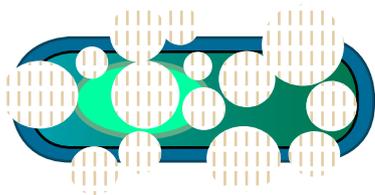
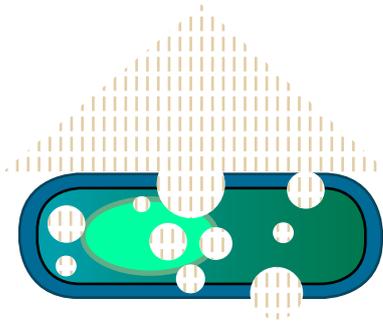
* We do recommend that you test a small section of the carpet in an inconspicuous area prior to treating the entire carpet.

The diagram below illustrates how Difficil-S® works

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Typical structure of spore-forming bacteria



1 When Difficil-S® is applied to the carpet, it immediately attacks the electrons in the molecular structure of pathogens eg. *Clostridium difficile* and MRSA

2 Difficil-S® then starts to break down the cell wall.....

3and then completely kills the pathogen.

Who has approved Difficil -S® for use?

Difficil-S® was independently tested by the NHS research laboratories of City Hospital, Birmingham. Due to the innovative nature of Difficil-S® and its proven 5-log reduction against all known pathogens, it was fast tracked through by the Department of Health's Rapid Review Panel (RRP) and awarded a Recommendation 2 in October 2008. Difficil-S® is still the only product in its class which has received this level of recommendation.

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Who already uses Difficil-S®

Since Difficil-S® received its RRP Recommendation 2, Difficil-S® is being used by both NHS Trusts and care home groups.

Benefits of using Difficil-S®

When compared with chlorine-based products, which are commonly used for disinfection, Difficil-S® has many advantages:

- A low dilution rate means patients and staff do not have to vacate the room whilst using Difficil-S®
- No harmful or unpleasant gases are released and, unlike chlorine, Difficil-S® is non-carcinogenic which means it has no cancer causing compounds produced by combination with organic waste
- Difficil-S® is non-corrosive with a near neutral ph allowing it to be used on all surfaces including flooring
- Once mixed with cold water, Difficil-S® is stable for 14 days with an efficacy of 99.999% against all known pathogens
- The product is presented as two small sachets (2 x 12.5g) to provide 10 litres of Difficil-S® which makes it very low bulk for storage
- Stability of sachets is 30 months
- The cost per square metre of Difficil-S® is around 5p

2 Lines of defence

In order for Difficil-S® to work effectively Danfloor recommend you follow a two line of defence approach:-

- 1. Pro-active – weekly clean**
- 2. Defence – attack against spillages**

Before using Difficil-S® as part of the weekly pro-active clean we recommend that Danfloor's maintenance programme be followed with at least the carpet being vacuumed before Difficil-S® is applied.

Pro-active weekly clean

To prevent the spread and outbreak of any harmful bacteria we recommend that Difficil-S® be applied to carpeted areas on a weekly basis with the use of a carpet cleaning machine eg. Rotowash or similar. High footfall areas or areas where there is frequent movement of residents to and from hospital may be cleaned more frequently with high risk carpeted areas (i.e. toilets, commodes, washing areas) cleaned on a daily basis.

Difficil-S® is extremely simple to prepare; simply add the 2-part powder system to 10 litres of cold water. The solution is then further diluted with the cold water used in the floor/carpet cleaning machine ie. Rotowash.

Two lines of defence

Defence – attack against spillages

In the event of an organic spillage i.e. blood, faeces or vomit it should be immediately contained and absorbent granules used before the contaminated area is treated with full strength Difficil-S® from the provided 500ml trigger jet bottle.

Line of defence	Concentration of Difficil-S®	Application rate
Pro-active weekly clean	20%	500ml per square metre (approximately)
Defence – attack against spillages	100%	Spillage should be contained by using absorbent granules* and then full-strength Difficil-S® should be sprayed onto the contaminated area and left to dry.

The carpet will be touch dry very quickly and will take around 20 minutes for it to be completely dry. This drying speed is dependent on the temperature of the room and the pile weight of the carpet.

Recommended Machinery

Difficil-S® recommends the use of a Rotowash machine, or a similar cleaning machine, which has a rotation speed of 650rpm (revolutions per minute). The cleaning machine requires this rotation speed in order to achieve a full 'down to base' carpet fibre clean. Duplex achieve this by the fully-floating, contra-rotating effect of their machines. Other cleaning machines would require this specification to ensure that the Difficil-S® solution saturates the full fibre length.



Compatible products

Extensive testing has been undertaken with Difficil-S® on the compatibility of danfloor carpets and we can confirm that Difficil-S® can be used on the following product ranges:-

- **Equinox**
- **Infinity**
- **New Generation**

However, as a precaution, we would always recommend that you test a small section of the carpet in an inconspicuous area with Difficil-S® prior to treating the entire carpet, as danfloor UK Ltd cannot accept responsibility or liability for any cosmetic damage to carpets.



* Absorbent granules are used to mop up any large spills (usually ones that are organic e.g. blood) before a disinfectant is applied. Absorbent granules are liquid absorbent polymers that swell in size to absorb the spill, making it easier to handle.

The fight against bacteria

What does “log reduction” really mean?

A log reduction is simply a way of expressing how effectively bacteria has been killed on an area being treated with disinfectant.

You may have noticed that many household cleaners/disinfectants state that they kill 99.9% of all bacteria; this is referred to as a 3-log reduction. Anything which has a kill rate of 99.99% is a 4 log reduction and cleaners/disinfectants like Difficil-S® that have a 5 log reduction, is a kill rate of 99.999%.

A 5-log reduction (99.999%) means lowering the number of bacteria by 100,000 fold. In other words, if a surface has 1,000,000 germs on it, a 5-log reduction would reduce the number to just 10.

A 3-log reduction (99.9%) means lowering the number of bacteria by 1,000 fold. In other words, if a surface has 1,000,000 germs on it, a 3-log reduction would reduce the number to 1000.

A total wipe out

With Difficil-S®, a 5- log reduction means that with a remaining bacteria count of 10 there are too few bugs left for the bacteria to re-colonise therefore eliminating the harmful pathogens and wiping out any potential threat of infection.

With so-called 'superbugs' eg. *Clostridium difficile*, MRSA and Norovirus, it is crucial for the health and wellbeing of everyone that these bacteria are destroyed as thoroughly as possible. Therefore, the higher the log-reduction, the greater the level of protection from harmful bacteria and the less risk of contamination

Environmental impact

The main component in Difficil-S® is chlorine dioxide which when added to water becomes a gas in solution. Upon contact with air the gas dissipates which means there is no long lasting residue remaining in the carpet fibres. Therefore when carpets have reached the end of their life and are disposed of there is no leaching effect into the environment, making the use of this product not only effective in the use of infection control but also environmentally friendly.

What you will receive from Difficil-S®

When you purchase Difficil-S® you will receive the following:

- Enough Difficil-S® to produce 100 litres of solution (when mixed with cold water)
- A mixing vessel and mixing rod
- Four 500ml trigger-jet dispensers and
- Four cleaning cloths

In addition to this starter pack a full training programme is provided by a fully qualified nurse to ensure safe use and effective application of the product.

Refill packs and individual items from the pack can also be purchased as and when required.

For more information about Difficil-S® visit:

www.danfloor.co.uk/anti-microbial or call 01359 252 181

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