

D'Shield

Antimicrobial Self-disinfecting Coating



- No Harmful Chemicals
- No Chemical Smell
- Environmentally Friendly
- Transparent & Inert
- Air permeable
- Quick drying
- Safe and easy to handle

Typical Surfaces

Metals & Steel

Wood

Glass

Plastic & Vinyl

Natural Fiber Textiles

Rubber

Synthetic Textiles

Stone & Granite

Product Description

D'Shield is a hybrid coating for surface protection and long term antimicrobial properties. Friendly formulation of "quaternary ammonium compounds; QAC"

D'Shield all surface antimicrobial coating is a ready to use, single component, molecular coating that forms a long lasting, durable, hygienic barrier on various surfaces.

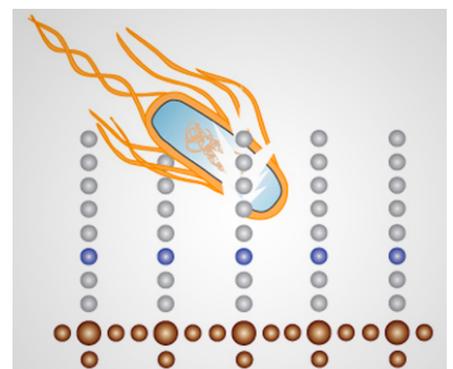
The treated surface becomes resistant to virus, bacteria, mould, mildew, dirt and stain resistant and allows easy cleaning & the removal of contaminants from the coated surface.

Surface can be recoated as needed.

Broad Spectrum Antimicrobial

*Virucide *Bactericide *Fungicide

1. QAC are positively charged & will neutralized the negatively charged virus
2. The antimicrobial action is non-chemical but physical.
Thus, providing a very long-term effectiveness.
3. Continuous protection after coating (**up to 90 Days**)
4. Effective against Viruses- Coronavirus, Influenza, Rotavirus, Poliovirus, etc.
5. Effective against Bacteria, Mould , Mildew, Biofilms, Algae



Surface Protection

- Makes surface stain free
- Makes the surface easy to clean and disinfect. Save on many harmful and expensive.
- The coating provides surface protection to extend the life of the material.

Directions for Use:

1. Surface must be dry and free of all soil, dirt, oils, and sealers. Test surface in an inconspicuous area before application.
2. Application may be done by use of spray equipment, pump or simple hand sprayer, immersion, padding, or by roller.
3. For hard surfaces, make sure the coating is evenly spread. After spraying a microfiber cloth can be used to spread the coating.
4. Textiles must be washed to remove any dirt, additives, or washing agents prior to application. Make sure the coating is evenly spread and absorbed.

Curing Time:

The Antimicrobial Coating stabilises in minutes after application and is ready for light use. Full adhesion to the surface will take up to 8 to 12 hrs.

Coverage Area:

Coverage of the coating depends on the surface absorbency and application technique.

Non-Porous Surfaces = 3 ml to 5 ml / sq. ft.

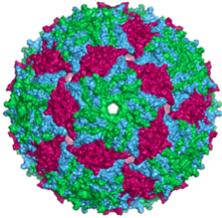
Porous Surfaces = 5 ml to 7 ml / sq. ft.



D'Shield: Successful as a Virucide To Deactivate SARS – CoV—2 (COVID – 19)

Since SARS-CoV-2 strain is not commonly available in Labs for testing, so as per EPA Guidelines- OCSP 810.2200 and OCSP 810.2000 *, all 3rd party tests have been allowed to be conducted on Viruses which are most difficult to kill.

D'Shield Tested On & Successfully Kills "99.99%" of Small Non-enveloped Virus (One of The most difficult Virus to kill)



Escherichia virus MS2 (ATCC 15597 B1)

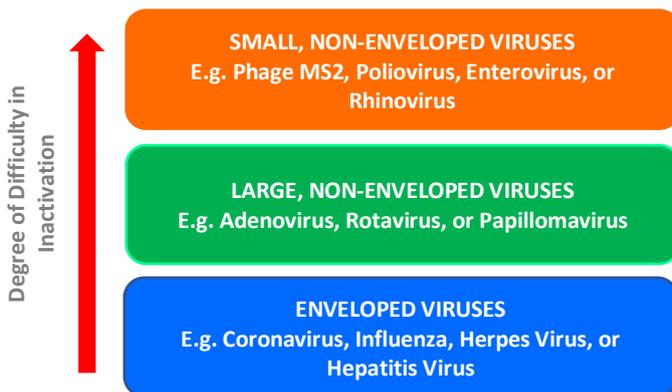
MS2 is a non-enveloped, icosahedral virus. MS2's lack of lipid envelope means that it is generally resistant to chemical disinfectants and is also able to withstand environmental stressors like temperature changes, desiccation, and osmotic pressure.

The efficacy criteria are based on the ease with which the three types of viruses- enveloped, large non-enveloped and small non-enveloped viruses-are inactivated by disinfectants. The general idea of the EPA's policy is that in order for a disinfectant to be considered effective against an emerging pathogen, it must demonstrate efficacy – that is, have an EPA-approved claim – against viruses that are harder to kill than the emerging pathogen.

Ease of kill	Difficult	Small non-enveloped
	Easy	Large non-enveloped Enveloped

SARS-CoV-2, the virus responsible for the COVID-19 outbreak, is an enveloped virus and therefore the easiest to kill of the three types

3rd Party Test Result



D'Shield - Long Term Antimicrobial Coating is found Effective in Killing 99.99% of MS2 Virus

ASN GUARD is Effective Against All The Three Types of Viruses As Per EPA Guidelines including Coronavirus

3rd Party Test Result

The main active ingredient is Quaternary Ammonium Compounds (our QAC content of 0.65% w/w is higher than WHO's guidelines)

Analysis Report			
S. No.	Parameters	Test Results	Protocol
1	Silicon dioxide, % w/w	0.01	USP29-NF24
2	QAC, % w/w	0.65	IS14364

WHO & EPA Recommends QAC for Disinfection of COVID-19

WHO Guidelines: 0.5% quaternary ammonium compounds as appropriate disinfectant for COVID -19

[https://www.who.int/publications/i/item/laboratory-biosafety-guidance-related-to-coronavirus-disease-\(covid-19\)/](https://www.who.int/publications/i/item/laboratory-biosafety-guidance-related-to-coronavirus-disease-(covid-19)/)

EPA Website:

<https://cfpub.epa.gov/giwiz/disinfectants/index.cfm>

3rd Party Test Result

Analysis Report

S. No.	Name of Organism	Test Observation			Protocol
		Recovered Bacteria After contact Time = 0 Hours (cfu/sample)	Recovered Bacteria After contact Time = 24 Hours (cfu/sample)	% Reduction	
Microbiological Analysis:					
Antibacterial activity of Antimicrobial surface Coating on Porous surface after 30 wash cycle					
•	<i>Staphylococcus aureus</i> (MTCC 737)	2.4x 10 ⁵	Nil	100 %	AATCC 100
•	<i>Salmonella enterica</i> (MTCC 3858)	2.6x 10 ⁵	Nil	100 %	AATCC 100
•	<i>Pseudomonas aeruginosa</i> (MTCC 424)	2.3x 10 ⁵	Nil	100 %	AATCC 100
•	<i>E. coli</i> , (MTCC 443)	1.8x 10 ⁵	Nil	100 %	AATCC 100
•	<i>Listeria monocytogenes</i> (MTCC 839)	1.6x 10 ⁵	Nil	100 %	AATCC 100
•	<i>Enterococcus faecalis</i> (MTCC 439)	2.1x 10 ⁵	Nil	100 %	AATCC 100
•	<i>Bacillus cereus</i> (MTCC-430)	1.7x 10 ⁵	Nil	100 %	AATCC 100

D’Shield - Long Term Antimicrobial Coating is Effective to Kill 100% Harmful Bacteria & Pathogens Even after 30 Wash Cycles on Porous Surfaces.

D’Shield is Effective Against a “Broad Spectrum” of bacteria (Gram Positive & Gram Negative) even after surface abrasion as per EPA Protocol.



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