



Pathogens Killed and Inactivated by Q Shield™

Viruses

<u>Viruses</u>	<u>Reference</u>
Adenovirus Type II & IV	17, 18, 21
Bovine Adenovirus Type I & IV	17, 18, 21
Feline pneumonitis	21
Herpes Simplex Type I	16, 17, 18
Herpes Simplex Type II	21
HIV-1 (AIDS)	21
Influenza A2 (Aichi)	17, 18, 21
Influenza A2 (Asian)	17, 18
Influenza B	17, 18
Mumps	17, 18
Parinfluenza (Sendai)	21
Rous Sarcoma	17, 18
Reovirus Type I	17, 18
Simian Virus 40	17, 18
Vaccinia	17, 18
MS2	19
PRD1	19

Gram Positive Bacteria

<u>Gram Positive Bacteria</u>	<u>Reference</u>
Bacillus sp. (vegetative cell)	5, 6, 11
Corynebacterium diphtheriae	1, 13
Micrococcus lutea	5, 6, 11
Micrococcus sp.	2, 5, 15
Mycobacterium tuberculosis	14
Mycobacterium smegmatis	14
Propionibacterium acnes	5
Staphylococcus aureus	2, 3, 5, 6, 10, 11, 13, 24, 15, 21
Staphylococcus epidermidis	2, 5, 6, 7, 11, 13, 14, 15
Streptococcus faecalis	2, 5, 6, 7, 11, 13, 14
Streptococcus mutans	5, 6, 7, 11
Streptococcus pneumonia	1
Streptococcus pyogenes	5, 6, 7, 11

Gram Negative Bacteria

<u>Gram Negative Bacteria</u>	<u>Reference</u>
Serratia marcescens	5, 6, 7, 11
anthomonas campestris	5, 6, 7, 11
Acinetobacter calcoaceticus	2, 5, 6, 11, 14, 15
Aeromonas hydrophilia	5, 6, 11
Citrobacter deversus	5, 6, 11
Citrobacter freundii	5, 6, 11
Enterobacter aerogenes	5, 6, 7, 11
Enterobacter agglomerans	2, 5, 14, 15

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Enterobacter cloacae	5, 6, 7, 11
Enterococcus	10
Escherichia coli	1, 2, 3, 5, 6, 7, 10, 11, 13, 14
Klebsiella oxytoca	5, 6, 11, 14
Klebsiella pneumoniae	3, 5, 6, 7, 9, 10, 11, 13, 14
Klebsiella terrigena	19
Legionella pneumophila	1
Morganella morganii	5, 6, 7, 11
Proteus mirabilis	5, 6, 7, 11
Proteus vulgaris	5, 6, 7, 11
Pseudomonas aeruginosa	2, 3, 5, 6, 7, 11, 13, 14
Pseudomonas fluorescens	5, 6, 7, 10, 11
Salmonella cholerae suis	5, 6, 7, 11, 14
Salmonella typhi	5, 6, 7, 11, 14
Salmonella typhimurium	1, 5, 6, 7, 11
Serratia liquefaciens	5, 6, 7, 11

Fungi, Algae, Mold, Yeast, Spores

Reference

Alteraria alternate	8,12
Aphanizomenon sp.	22
Aspergillus flavus	2, 5, 6, 7, 11, 14
Aspergillus niger	2, 5, 6, 7, 8, 11, 12, 13, 14
Aspergillus sydowi	5, 6, 7, 11
Aspergillus terreus	5, 6, 7, 11, 14
Aspergillus versicolor	2, 5, 6, 7, 11
Aspergillus verrucaria	14
Aureobasidium pullans	5, 6, 7, 8, 11, 12
Candida albicans	1, 2, 5, 6, 7, 14
Candida pseudotropicalis	5, 6, 7, 11
Chaetomium globosum	1
Cladosporium cladosporioides	8, 12
Chlorella vulgaris	19
Dreschlera australiensis	8, 12
Epidermophyton sp.	9
Gliomastix cerealis	8, 12
Gloeophyllum trabeum	5, 6, 7, 11
Microsporium sp.	9
Microsporium audouinii	21
Monilia grisea	8, 12
Oscillatoria	20
Penicillium chrysogenum	5, 6, 7, 11
Penicillium commune	8, 12
Penicillium funiculosum	1, 2, 5, 6, 7, 11, 14
Penicillium pinophilum	5, 6, 7, 11
Penicillium variable	5, 6, 7, 11, 14
Phoma fimeti	8, 12
Pithomyces chartarum	8, 12
Poria placenta	5, 6, 7, 11
Scenedesmus	20
Saccharomyces cerevisiae	5, 6, 7, 11, 13, 14

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Scolecobasidium humicola	8, 12
Selenastrum sp.	22
Trichoderma viride	5, 6, 7, 11
Trichophyton interdigitale	2, 14
Trichophyton maidson	14
Trichophyton mentogrophytes	5, 6, 7, 9, 11
Trichophyton sp.	

REFERENCES

1. Y. Hsiao, Chinese Pat. Appl., PCT/CN98/00207 (1998)
2. James Malek, John Speir, "Method of Reducing the Number of Microorganisms in a Method of Preservation"; U.S. Pat. 4,259,103 (1981)
3. Stewart Klein, "3-(trimethoxysilyl)propylididecylmethyl Ammonium Salts and Method of Inhibiting growth of Microorganisms Therewith"; U.S. Pat. 4,394,378 (1983).
4. William Eudy, "Organosilicon Quaternary Ammonium Antimicrobial Compounds"; U.S. Pat. 4,406,892 (1983).
5. Richard Gettings, William White, "Skin Treatment Method"; U.S. Pat. 4,908,355 (1990)
6. Lynne Blank, William White, "Antimicrobial Rinse Cycle Additive"; U.S. Pat. 5,145,596 (1992)
7. Richard Gettings, William White, "Ophthalmic fluid Dispensing Method"; U.S. Pat. 5,013,459 (1991).
8. Richard Avery, Frederick Martin, Sean Dwyer, "Production of Stable Hydrolyzable Organosilane Solutions"; U.S. Pat. 5,411,585 (1995).
9. Lynne Blank, Richard Gettings, William White, "Method of Treating Tinea Pedis and Related Dermatophytic Infections"; U.S. Pat. 4,865,844 (1989).
10. David Battice, Michael Hale, "Antimicrobially Effective Organic Foams and Methods for their Preparation"; U.S. Pat. 4,631,297 (1986).
11. Bruce Higgs, William White, "Solid Antimicrobial"; U.S. Pat. 5,359,104 (1994). This patent also describes the method of antimicrobial activity.
12. Richard Avery, Frederick Martin, Sean Dwyer, Colin Brown, "Production of Stable Hydrolyzable Organosilane Solutions"; U.S. Pat. 5,411,585 (1995).
13. William White, Jerry Olderman, "Antimicrobial Techniques for Medical Nonwovens: A Case Study"; Book of Papers, 1984, 12th Annual Nonwovens Tech. Symposium, pp. 13-46. No bacterial adaption (no increased bacterial resistance to Zoonocide) reported.
14. J. McGee, J. Malek, W. White, "New Antimicrobial Treatment for Carpet Applications", Am. Dyestuff Rep., 1983, (6), pp.56-59. Dow Corning Technical Brochure; 22-994-83 (1983).
15. Richard Gettings, Benny Triplett, "A New Durable Antimicrobial Finish for Textiles"; Book of Papers, 1978, American Association of Textile Chemists and Colorists National Technical Conference, pp. 259-261. Dow Corning Technical Brochure; 24-095-85 (1985).
16. I-Fu Tsao, Henry Wang, Charles Shipman, "Interaction of Infectious Viral Particles with a Quaternary Ammonium Chloride Surface"; Biotechnol. Bioeng., 34, (5), pp. 639-46 (1989).
17. I-Fu Tsao, Henry Wang, "Removal and Inactivation of Viruses by a Surface Bonded Quaternary Ammonium Chloride", ACS Symp.Ser. (1990), Volume Date 1988, 419, pp. 250-67. Reaction with Lipidophilic Viruses.
18. M. Klein, A. DeForest, "Principles of Viral Inactivation", Disinfection, Sterilization and Preservation. 3rd Ed., S. Block, Ed., (Lea & Febiger, Philadelphia, PA) 1983, pp.422-434.
19. M. Abbaszadegan, et.al., "Evaluation of Proprietary Treated Zeolite in Point of Use Devices for Removal of Microorganisms", NSF Water Quality Center, Arizona State University, Tempe, AZ 85257; 12/03. W. Peterson & R. Berman, U.S. Pat.Pending, 60/472,429 (7/03).
20. P. Westerhoff, D. Bruce, "Biocide Coating Experiment", Arizona State University, Tempe, AZ 85257; 8/00.

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21. W. Peterson, D. Giaccio, R. Berman, "Antimicrobial Skin Preparations Containing Organosilane Quaternaries", U. S. Patent 6,613,755 (9/2/03).
22. Third Party Testing; Univ. Iowa, Hygienic Laboratory, (No.27, AIHA,NELAD, USEPA, NVLAP), Iowa City, IA, 10/05
23. M. Abbaszadegan, et.al., J. Envir. Science & Health, Part A, 41:1201-1210, 2006.

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