

References for Hygisoft[®] and Desisoft[®] disinfection products.

Tests for active ingredient PHMG commissioned by Soft Protector Ltd.

Hand disinfectant:

1. Microbiological efficacy test of Desisoft hand disinfectant compared with n-propanol and Isopropanol
2. Evaluation of antimicrobial activity: modified EN 1276/EN1650 (26.1.2007)
3. Study of non alcoholic hand disinfectant product at district of Kanta-Häme: comparison with alcohol (30.1.2006)
4. EN 1500, comparison with isopropanol (60 %) (28.9.2006)
5. EN 12054, bactericidal activity (24.1.2005)
6. EN 12791, comparison with –propanol (16.5.2005)

Surface disinfectant:

7. Efficacy of Hygisoft in potato infection disease (Latvia, 12.12.2007)
8. The effectiveness of disinfectant agents; comparison with sodium hypochlorite, Chloramine, Hydrogen peroxide – peracetic acid (31.1.2007)
9. EN 1276, bactericidal activity (9.2.2004)
10. EN 1650, fungicidal activity (4.5.2005)
11. EN 13697, bactericidal activity (28.3.2006)
12. EN 13704, sporadic activity (26.1.2006)
13. EN 13704, modified, test organism C.difficile (13.3.2007)
14. EN 13713; bactericidal activity (medical, 24.3.2006)
15. Evaluating of efficiency of disinfectant formulation Desisoft/Hygisoft (Russian test, 2004)
16. Desisoft and blood testing
17. Russian study for Hygisoft
18. EN 14476, viral activity (23.10.2008)
19. Determination of Anti-Viral activity against Human Immunodeficiency Virus 1 (HIV-1) (Haffkine Institute (2008)
20. Determination of Anti-Viral activity against Rabies Virus (Haffkine Institute, 2008)
21. EN 1276, bacterial activity (6.4.2009)
22. EN 14476, viral activity (12.6.2009)

Surface disinfectant with detergent:

23. EN 13697, bactericidal effect (13.3.2007)
24. EN 1276, bacterial activity (6.4.2009)
25. EN 14476, Viral activity (12.6.2009)

Instrument disinfectant:

26. EN 13624, fungicidal activity (29.3.2006)
27. EN 13727, bactericidal activity (24.3.2006)
28. EN 14562/EN 14561, fungicidal/bactericidal activity (25.9.2007)

Farm disinfectant:

29. Accumulation test (Russian, translation not dated or signed)

Other:

30. pfEN22610:2005, bactericidal penetration: polyurethane polymer fabric treated with PHMG (7.2.2006).
31. Activity of PHMG against swine pathogens Streptococcus suis and Haemophilus parasuis
32. Activity of PHMG against swine pathogen Actinobacillus pleuropneumoniae

Micro-organism	Reference
Actinobacillus pleuropneumoniae	32
Adeno virus	15, 18, 22, 25
Aspergillus niger	10, 11, 15, 26, 28
Bacillus subtilis	12
Campylobacter jejuni	9
Candida albicans	2, 10, 11, 15, 26, 28
Clavibacter michiganensis subsp. sepedonicus	7, 9
Clostridium difficile	13
Coxsackie B3 virus	22, 25
Corynebacterium diphteriae	17
Escherichia coli	2, 4, 5, 9, 11, 14, 15, 17, 21, 24, 27
Escherichia coli, EHEC	9
Enterococcus hirae	2, 5, 11, 14, 21, 24, 27, 28
Haemophilus parasuis	31
Hepatitis B virus	15
HIV	15*, 19
Influenza A virus	22, 25
Mycobacterium B5	15
Polio virus	15
Proteus	17
Pseudomonas aeruginosa	2, 5, 8, 9, 11, 14, 15, 17, 21, 23, 24, 27, 28
Rabies virus	20
Salmonella abony	24
Salmonella infantis	9
Salmonella typhi	17
Staphylococcus aureus	2, 5, 8, 9, 11, 14, 15, 17, 21, 23, 24, 27, 28, 30
Staphylococcus aureus, MRSA	8, 14
Streptococcus suis	31
Trichophyton gypseum	15
Yersinia enterocolitica	9

**assumed based on HBV results, reference: Peters and Spicher. Zur Auswahl der Desinfektionsmittel bei AIDS. Bundesgesundheitsbl. 30: 1-5, 198*

Other studies made in Finland for C.difficile, comparison with chlorine, showing PHMG working at least as well as chlorine against bacterial spores. Helsinki University Hospital, PhD study, not published yet. Turku University Hospital, poster published. Haffkine Institute in India, studies about PHMG against HIV, Rabies, Drinking water, Slaughter houses using PHMG on carcasses comparison with chlorine and acid, aqua culture study and using PHMG on bananas. All positive results. Swine pathogens study and citrus fruit study in Argentina with positive results.

Tested microbes found in literature, which are controlled by PHMG

Bacteria:

Actinobacillus pleuropneumoniae
Aeromonas hydrophila
Bacillus subtilis
Brucella spp.
Campylobacter jejuni
Clavibacter michiganensis subsp. sepedonicus
Clostridium difficile (including spores)
Corynebacterium diphtheriae
Enterococcus hirae
Escherichia coli
Escherichia coli, EHEC
Haemophilus parasuis
Listeria monocytogenes
Mycobacterium B5
Neisseria gonorrhoeae
Proteus spp.
Pseudomonas aeruginosa
Salmonella abony
Salmonella infantis
Salmonella typhi
Salmonella typhimurium
Shigella dysenteriae
Staphylococcus aureus
Staphylococcus aureus, MRSA
Staphylococcus typhimurium
Mycobacterium tuberculosis
Mycobacterium B5
Vibrio alginolyticus
Vibrio anguillarum
Vibrio parahaemolyticus
Yersinia enterocolitica

Fungi:

Acremonium spp.
Anchorion schonleinii
Aspergillus flavus
Aspergillus fumigatus
Aspergillus niger
Aspergillus nidulans
Aspergillus terreus
Candida albicans
Candida glabrata
Candida guilliermondii
Candida krusei
Candida lipolytica
Candida lusitaniae
Candida parapsilosis
Candida pseudotropicalis
Candida tropicalis
Epidermaphyton rubrum
Mycrosporium lanosum
Mycrosporium ferrugineum
Penicillium glaucum
Penicillium purpurascens
Phytophthora spp.
Psilocybe pelliculosa
Rhizoctonia Solani
Scopulariopsis brevicularis
Trichophyton crateriform
Trichophyton gypseum
Trichophyton rubrum
Trichophyton mentagrophytes
Trichophyton violaceum
Trichophyton soudanense
Trichoderma viride

Viruses:

Adenoviruses
Coxsackie B3 virus
Hepatitis B virus
Herpes virus
HIV
Influenza A virus
H5N1 Highly pathogenic Avian Influenza Virus
Polioviruses
Rabies virus
Rotaviruses

List of tested microbes found in literature, which are controlled by PHMB

Bacteria:

Acinetobacter baumannii
Aeromonas hydrophila
Bacillus cereus
Bacillus megaterium
Bacillus polymyxa
Bacillus subtilis
Campylobacter jejuni
Citrobacter freundii
Clostridium welchii
Corynebacterium acnes
Edwardsiella tarda
Enterobacter aerogenes
Enterobacter cloacae
Enterococcus faecium
Enterococcus faecalis
Escherichia coli
Klebsiella aerogenes
Klebsiella pneumoniae
Lactobacillus casei
Legionella pneumophila
Listeria monocytogenes
Micrococcus lutea
Mycobacterium smegmatis
Proteus mirabilis
Proteus rettgeri
Proteus vulgaris
Pseudomonas aeruginosa
Pseudomonas cepacia
Pseudomonas fluorescens
Pseudomonas perolens
Pseudomonas putida
Salmonella dublin
Salmonella enterica
Salmonella poona
Salmonella typhimurium
Serratia marcescens
Staphylococcus albus
Staphylococcus aureus
Staphylococcus aureus (MRSA)
Staphylococcus epidermidis
Staphylococcus schleiferi ss. schleiferi
Streptococcus faecalis
Streptococcus lactis
Streptococcus pyogenes
Vancomycin-resistant enterococcus (VRE)
Vibrio cholerae
Yersinia enterocolitica

Fungi:

Acanthamoeba polyphaga
Aspergillus niger
Candida albicans
Endomycopsis albicans
Rhodotorula rubra
Saccharomyces cerevisiae
Trichophyton mentagrophytes

Viruses:

Feline coronavirus
Herpes simplex 1 Virus (HSV)
Vaccinia virus
Rotavirus
Fowlpox Virus
Foot-and-mouth disease virus
Canine Parvovirus
H7N1 Pathogenic Avian Influenza Virus
H5N1 Highly pathogenic Avian Influenza Virus