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Re: Disinfection Activity of HemaPeroxy Liquid Disinfectant

HemaPeroxy was tested under Good Laboratory Practices (GLP) in a contract laboratory in the presence of 400 ppm hardness (calculated as CaCO₃) and 5% serum. The testing employed standard methods published by American Society for Testing and Materials (ASTM). Representative Bacterial, Bacterial Spores, Fungi and viruses were tested. In addition a new Biofilm test was employed as it has been well established that some disinfectant agents are not effective against microorganisms growing as a biofilm. The results of the testing are provided below:

	Strain	Procedure	HemaPeroxy Dilution ¹	Contact Time (minutes)	Log ₁₀ Reduction	Result
SPOROCIDAL ACTIVITY						
<i>Clostridium difficile</i>	ATCC 43598	ASTM E2197	1:100	10	>6 cfu	Pass
BACTERICIDAL ACTIVITY						
			1:100			
<i>Acinetobacter baumannii</i>	ATCC 19606	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Bordetella pertussis</i>	ATCC 12743	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Escherichia coli</i>	ATCC 11229	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Klebsiella pneumoniae</i>	ATCC 4352	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Proteus mirabilis</i>	ATCC 7002	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Pseudomonas aeruginosa</i>	ATCC 15442	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Salmonella colerasuis</i>	ATCC 10708	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Staphylococcus aureus</i>	ATCC 6538	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Staphylococcus aureus</i> (MRSA)	ATCC1556	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Staphylococcus epidermidis</i> (MRSE)		ASTM E2111	1:100	10	>6 cfu	Pass
<i>Streptococcus pneumoniae</i>	ATCC 6303	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Streptococcus pyogenes</i>	ATCC 19615	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Enterococcus faecalis</i>	51299	ASTM	1:100	10	>6 cfu	Pass

(VRE)		E2111				
TUBERCULOCIDAL ACTIVITY						
<i>Mycobacterium terra</i> ²	ATCC 15755	ASTM E2111	1:100	10	>5 cfu	Pass
FUNGICIDAL ACTIVITY						
<i>Trichophyton mentagrophytes</i>	ATCC 9533	ASTM E2111	1:100	10	>6 cfu	Pass
<i>Candida albicans</i>	10231	ASTM E2111	1:100	10	>6 cfu	Pass
BIOFILM ACTIVITY						
<i>Pseudomonas aeruginosa</i>	ATCC 15442	ASTM E2799	1:100	10	>5 cfu	Pass
VIRICIDAL ACTIVITY						
<i>Human Immunodeficiency Virus</i>	Type 1	ASTM 1053	1:100	10	Inactivation	Pass
<i>Herpes simplex virus</i>	ATCC VR-733	ASTM 1053	1:100	10	Inactivation	Pass
<i>Influenza A</i>	ATCC VR 544	ASTM 1053	1:100	10	Inactivation	Pass
<i>Respiratory Syncytial Virus</i>	ATCC VR 199	ASTM 1053	1:100	10	Inactivation	Pass
<i>Vaccinia virus</i>	ATCC VR 119	ASTM 1053	1:100	10	Inactivation	Pass
<i>Feline calicivirus</i> ³	ATCC VR 782	ASTM 1053	1:100	10	Inactivation	Pass
<i>Canine Parvovirus</i>	ATCC VR 2017	ASTM 1053	1:100	10	Inactivation	Pass
<i>Rhinovirus</i>	ATCC 1147	ASTM 1053	1:100	10	Inactivation	Pass
<i>Hepatitis B virus</i>		ASTM 1053	1:100	10	Inactivation	Pass
<i>Hepatitis C virus</i>		ASTM 1053	1:100	10	Inactivation	Pass

¹1:100 = 140 to 165 ppm peroxyacetic acid and 600 to 700 ppm hydrogen peroxide

² Surrogate for *Mycobacterium tuberculosis*

³ Surrogate for *Norovirus*

Conclusion:

- As a hard surface disinfectant with at least 10 minutes contact time
- Hemaperoxy at a 1:100 dilutions is effective against common bacterial pathogens
- Hemaperoxy at a 1:100 dilutions is effective against common fungal pathogens
- Hemaperoxy at a 1:100 dilutions is effective against common viral pathogens
- Hemaperoxy at a 1:100 dilutions is effective against bacterial spores (e.g. *Clostridium difficile*)
- Hemaperoxy at a 1:100 dilutions is effective against *Mycobacterium tuberculosis*
- Hemaperoxy at a 1:100 dilutions is effective against microbial biofilms



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