

EFFICACY DATA for MERFIN MATES SANIMATE™ DISINFECTANT LIQUID (EPA Reg. No. 1839-83-82772)

VIRUCIDAL DATA:

Test Methods:

* U.S. E.P.A. Pesticide Assessment Guidelines, Subdivision G: Product Performance, Section 91-2(f), and Section 91-30 (d), (e), November, 1982.

† Protocols for Testing the Efficacy of Disinfectants against Hepatitis B Virus (HBV) (EPA, Federal Register, Vol. 65, No. 166, 8/25/2000, p. 51828).

‡ Protocol for Testing Disinfectants against Hepatitis C Virus using Bovine Viral Diarrhea Virus as approved by the U.S. EPA on August 15, 2002.

• Modified U.S. E.P.A. Pesticide Assessment Guidelines, Subdivision G: Product Performance, Section 91-2(f), and Section 91-30 (d), (e), November, 1982.

Test Conditions: 5% serum, glass petri dish substrates

Results:

<u>Test Organism</u>	<u>Sample</u>	<u>Titer Reduction</u>	<u>Contact Time</u>
‡Bovine Viral Diarrhea Virus (BVDV)	A&B	≥5.5 log ₁₀	10 minutes
*Canine Parvovirus (ATCC VR-2017)	A&B	≥3.0 log ₁₀	10 minutes
•Feline Calicivirus (FCV)	A&B	6.48 log ₁₀	30 seconds
*Hepatitis A Virus (HAV)	A&B	≥3.0 log ₁₀	10 minutes
†Hepatitis B Virus (HBV) (Duck Hepatitis B Virus-DHBV)	A&B	≥>3.0 log ₁₀	10 minutes
‡Hepatitis C Virus (HCV) (Bovine Viral Diarrhea Virus-BVDV)	A&B	≥5.5 log ₁₀	10 minutes
*Human Immunodeficiency Virus, HTLV-III _{RF} , strain of HIV-1 (associated with AIDS)	A&B	≥3.5 log ₁₀	10 minutes
*Human Coronavirus (ATCC VR-740, strain 229E)	A&B	≥3.0 log ₁₀	2 minutes
•Norwalk Virus (Feline Calicivirus) (FCV)	A&B	6.48 log ₁₀	30 seconds
*Poliovirus Type 1, strain Brunhilde (ATCC VR-1000)	A&B	≥3.25 log ₁₀	10 minutes
*Rabies Virus (attenuated ERA strain, CDC)	A&B	3.0 log ₁₀	30 seconds

Conclusion:

Under the conditions of this investigation, Merfin Mates SaniMate™ Disinfectant Liquid was **virucidal** for Bovine Viral Diarrhea Virus (BVDV), Canine Parvovirus, Feline Calicivirus (FCV), Hepatitis A Virus (HAV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Human Immunodeficiency Virus (HIV-1), Human Coronavirus, Norwalk Virus, Poliovirus Type 1 and Rabies according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a virucide.

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TUBERCULOCIDAL DATA:

Test Method: AOAC Confirmative In Vitro Test for Determining Tuberculocidal Activity
Test Organism: *Mycobacterium bovis* BCG (Organon Teknika)
Test Conditions: 5% serum, 5 minute contact time, glass slide carrier substrates

Results:

<u>Subculture Media</u>	<u>Sample</u>	<u>No. of Exposed Carriers</u>	<u>No. of Carriers Showing Growth</u>
Modified Proskauer-Beck Medium	A	10	0
	B	10	0
Middlebrook 7H9 Broth	A	10	0
	B	10	0
Kirchners Medium	A	10	0
	B	10	0

Conclusion:

Under the conditions of this investigation, Merfin Mates SaniMate™ Disinfectant Liquid was **tuberculocidal** for *Mycobacterium bovis* (BCG) according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a tuberculocide.

MILDEW FUNGISTATIC DATA:

Test Method: EPA Hard Surface Mildew Fungistatic Test
Test Organism: *Aspergillus niger* (ATCC 6275)
Test Conditions: glazed ceramic tile substrates

Results:

<u>Sample</u>	<u>No. of Exposed Tiles</u>	<u>No. of Tiles Showing Growth</u>
MMSDL	10	0
Control	10	10

Conclusion:

Under the conditions of this investigation, Merfin Mates SaniMate™ Disinfectant Liquid (MMSDL) was fungistatic for *Aspergillus niger* according to criteria established by the U. S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungistat.

FUNGICIDAL DATA:

Test Method: AOAC Germicidal Spray Products as Disinfectants
Test Conditions: 5% serum, room temperature, glass slide carrier substrates

Results:

<u>Organism</u>	<u>Sample</u>	<u>No. of Carriers</u>		<u>ContactTime</u>
		<u>Exposed</u>	<u>Positive</u>	
<i>Trichophyton mentagrophytes</i> (ATCC 9533)	A	60	0	10 minutes
	B	60	0	
	C	60	0	

Conclusion:

Under the conditions of this investigation, Merfin Mates SaniMate™ Disinfectant was **fungicidal** for *Trichophyton mentagrophytes* according to criteria established by the U. S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungicide.

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BACTERICIDAL DATA:

Test Method: AOAC Germicidal Spray Products as Disinfectants
Test Conditions: 5% serum, room temperature, glass slide carrier substrates
Results:

<u>Organism</u>	No. of Carriers		<u>Positive</u>	<u>Contact Time</u>
	<u>Sample</u>	<u>Exposed</u>		
<i>Staphylococcus aureus</i> (ATCC 6538)	A	60	0	3 minutes
	B	60	0	
<i>Salmonella choleraesuis</i> (ATCC 10708)	A	60	0	3 minute
	B	60	0	
<i>Pseudomonas aeruginosa</i> (ATCC 15442)	A	60	0	3 minute
	B	60	0	
<i>Clostridium difficile</i> vegetative form (ATCC 9689)	A	10	0	3 minute
	B	10	0	
<i>Corynebacterium ammoniagenes</i> (ATCC 6871)	A	10	0	3 minute
	B	10	0	
<i>Enterococcus faecium</i> (ATCC 6569)	A	10	0	3 minute
	B	10	0	
<i>Escherichia coli</i> (ATCC 11229)	A	10	0	3 minute
	B	10	0	
<i>Escherichia coli</i> O157:H7 (ATCC 43895)	A	10	0	3 minute
	B	10	0	
<i>Listeria monocytogenes</i> (ATCC 35152)	A	10	0	3 minute
	B	10	0	
<i>Salmonella typhi</i> (ATCC 6839)	A	10	0	3 minute
	B	10	0	
<i>Yersinia enterocolitica</i> (ATCC 23715)	A	10	0	3 minute
	B	10	0	
Methicillin resistant <i>Staphylococcus aureus</i> (MRSA) (ATCC 33593)	A	10	0	3 minute
	B	10	0	
Vancomycin resistant <i>Enterococcus faecalis</i> (VRE) (ATCC 51575)	A	10	0	3 minute
	B	10	0	
Vancomycin intermediate resistant <i>Staphylococcus aureus</i> (VISA) (CDC Isolate 99287)	A	10	0	3 minute
	B	10	0	

Conclusion:

Under the conditions of this investigation, Merfin Mates SaniMate™ Disinfectant (MMSDL) was **bactericidal** for *Staphylococcus aureus*, *Salmonella choleraesuis*, *Pseudomonas aeruginosa*, *Clostridium difficile* vegetative form, *Corynebacterium ammoniagenes*, *Enterococcus faecium*, *Escherichia coli*, *Escherichia coli* O157:H7, *Listeria monocytogenes*, *Salmonella typhi*, *Yersinia enterocolitica*, Methicillin resistant *Staphylococcus aureus* (MRSA), Vancomycin resistant *Enterococcus faecalis* (VRE) and Vancomycin intermediate resistant *Staphylococcus aureus* (VISA) according to criteria established by the U. S. Environmental Protection Agency for registration and labeling of a disinfectant product as a bactericide.