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EFFICACY DATA for Xtreme Detergent/Disinfectant FIFRA Exempt

VIRUCIDAL DATA

Testing Methods

* U.S. E.P.A. Pesticide Assessment Guidelines, Subdivision G: Product Performance, 1982, Section 91-30, pp. 72-76.

† Virucide Assay (EPA, Federal Register 10, No. 123, 6/25/75, p. 26836)

. 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.

Test Conditions: 2 oz. Per gallon of water dilution, 10 minute contact time, tested in the presence of serum glass petri dish substrates

Results

Test Organism

Sample

Titer Reduction

†Adenovirus Type 2 A B 3.0 log₁₀>3.0 log₁₀

*Avian Influenza A Virus (H3N2) (Avian Ressorant) (ATCC VR-2072) A B >3.5 log₁₀>3.5 log₁₀

*Avian Influenza Virus, Type A (Turkey/WIS/66) (H9N2) A B >4.5 log₁₀>4.5 log₁₀

‡Bovine Viral Diarrhea Virus (BVDV) A B 6.1 log₁₀ 3.8 log₁₀

*Feline Calicivirus (FCV) A B 5.79 log₁₀>6.06 log₁₀

.Hepatitis B Virus (HBV) (Duck Hepatitis B Virus-DHBV) A B 4.5 log₁₀ 4.5 log₁₀

‡Hepatitis C Virus (HCV) (Bovine Viral Diarrhea Virus-BVDV) A B 6.1 log₁₀ 3.8 log₁₀

†Herpes Simplex Type 1 (Sabin) A B >4.0 log₁₀>3.7 log₁₀

*Human Coronavirus (ATCC VR-740, strain 229E) A B >3.0 log₁₀>3.0 log₁₀

*Human Immunodeficiency Virus, HTLV-III_{RF}, strain of HIV-1

(associated with AIDS)

A B >3.0 log₁₀>3.0 log₁₀

†Influenza A₂ (Japan 305/57) A B >6.5 log₁₀>6.0 log₁₀

*Norovirus (Norwalk Virus) (FCV) A B 5.79 log₁₀>6.06 log₁₀

*SARS Associated Coronavirus (ZeptoMetrix) A B 4.03 log₁₀ 4.03 log₁₀

†Vaccinia (Wyeth) A B >3.5 log₁₀>3.5 log₁₀

Conclusion

Under the conditions of this investigation, Xtreme Detergent/Disinfectant was **virucidal** for Adenovirus Type 2, Avian Influenza A Virus (H3N2), Avian Influenza Virus Type A (H9N2), Bovine Viral Diarrhea Virus (BVDV), Feline Calicivirus (FCV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Herpes Simplex Type 1 (Sabin), Human Coronavirus, Human Immunodeficiency Virus (HIV-1), Influenza A₂ (Japan 305/57), Norovirus (Norwalk Virus), SARS Associated Coronavirus and Vaccinia (Wyeth) according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a virucide.

MILDEW FUNGISTATIC DATA

Testing Method

Hard Surface Mildew Fungistatic Test (Unofficial Protocol, 10/27/76)

Test Organism: *Aspergillus niger* (ATCC 6275)

Test Conditions: tile substrates

Results

Sample Dilution No. of Exposed Tiles No. of Tiles Showing Growth

Xtreme Detergent/Disinfectant oz/gal 10 0

Control - 10 10

Conclusion

Under the conditions of this investigation, Xtreme Detergent/Disinfectant 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 Fungicidal Test

Test Organism: *Trichophyton mentagrophytes* (ATCC 9533)

Test Conditions: 2 oz/gal dilution

5% organic soil load

20°C exposure temperature

Results

Exposure Time
(min.) vs. Growth
Sample 5 10 15
A
B
+
+
0
0
0
0

Conclusion

Under the conditions of this investigation, Xtreme Detergent/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.

DISINFECTION DATA

Test Method

AOAC Use Dilution

Test Conditions: 5% organic soil load, 10 minute contact time, stainless steel carrier substrates, 20°C exposure temperature, 2 oz/gal dilution

Results

No. of Carriers
Test Organism Sample Exposed Positive
Staphylococcus aureus (ATCC 6538) A
B
C
60
60
60
0
0
0
Salmonella choleraesuis (ATCC 10708) A
B
C
60
60
60
0
0
0

Pseudomonas aeruginosa (ATCC 15442) A

B

C

60

60

60

0

0

0

Brevibacterium ammoniagenes (ATCC 6871) A

B

10

10

0

0

Enterobacter aerogenes (ATCC 13048) A

B

10

10

0

0

Escherichia coli (ATCC 11229) A

B

10

10

0

0

Klebsiella pneumoniae (ATCC 4352) A

B

10

10

0

0

Listeria monocytogenes (ATCC 984) A

B

10

10

0

0

Methicillin resistant *Staphylococcus aureus* (MRSA) (ATCC 33593) A

B

10

10

0

0

Salmonella schottmuelleri (ATCC 8759) A

B

10

10

0

0

Shigella dysenteriae (ATCC 12180) A

B

10

10

0

0

Streptococcus faecalis (ATCC 10541) A

B

10

10

0

0

Streptococcus pyogenes (Clinical-Flesh Eating Strain, BIRD M3) A

B

10

10

0

0

Streptococcus salivarius (ATCC 9222) A

B

10

10

0

0

Vancomycin intermediate resistant *Staphylococcus aureus* (VISA) A

B

10

10

0

0

Conclusion

Under the conditions of these investigations, Xtreme Detergent/Disinfectant demonstrated **disinfectant** activity against *Staphylococcus aureus*, *Salmonella choleraesuis*, *Pseudomonas aeruginosa*, *Brevibacterium ammoniagenes*, *Enterobacter aerogenes*, *Escherichia coli*, *Klebsiella pneumoniae*, *Listeria monocytogenes*, Methicillin resistant *Staphylococcus aureus* (MRSA), *Salmonella schottmuelleri*, *Shigella dysenteriae*, *Streptococcus faecalis*, *Streptococcus pyogenes* (Clinical – Flesh Eating Strain, BIRD M3), *Streptococcus salivarius* 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.

SANITIZATION DATA

Test Method

AOAC Germicidal and Detergent Sanitizing Action of Disinfectants

Test Conditions: 200 ppm active quaternary

2 oz/3.5 gal dilution

Results

TOTAL BACTERIAL COUNTS/

% KILL vs. EXPOSURE TIME

Synthetic

Hard Water

30 seconds

60 seconds

Test Organism Sample (ppm) TBC * % Kill† TBC * % Kill†

Staphylococcus aureus

(ATCC 6538)

A

B

C

250

250

250

1120

1065

1275

99.999

99.999

99.999

65

70

185

99.999

99.999

99.999

Escherichia coli

(ATCC 11229)

A

B

C

300

300

300

990

1215

1460

99.999

99.999

99.999

65

80

190

99.999

99.999

99.999

* TBC = Total Bacterial Count, cfu/ml

† % Kill calculated based on initial
inoculum control count of 75-125

x 10⁶ cfu/ml.

Conclusion

Under the conditions of these investigations, Xtreme Detergent/Disinfectant demonstrated **sanitizing** activity against *Staphylococcus aureus* and *Escherichia coli* according to criteria established by the U. S. Environmental Protection Agency for registration and labeling of a disinfectant product as a sanitizer.

FIFRA Claims allowed for Xtreme based products

Xtreme and Xtreme Based products are

FIFRA EXEMPT

FIFRA ALLOWED CLAIMS

Effectively kills odor-causing bacteria on food contact surfaces.

Effectively kills odor-causing bacteria on non-food-contact surfaces.

Kills bacteria that cause spoilage, deterioration, or fouling of materials on a variety of surfaces, textiles and paper products.

Kills bacteria that cause fouling in cooling towers.

Kills odor-causing bacteria

Effectively controls the growth of algae

Neutralizes and removes odors

Removes mold stains from surfaces such as patios, decks and most other structures.

Kills and controls Microorganisms infectious to animals