

# Bortek Industries, Inc.

## SUMMARY OF ANTIMICROBIAL ACTIVITY

### LAVFRESH TB

#### RTU – Tuberculocidal - Disinfectant

#### Description

**LAVFRESH TB** is a broad spectrum, hard non-porous surface disinfectant. When used as directed, this product is effective against a wide variety of pathogenic microorganisms as listed in the micro-organism table including bacteria, antibiotic resistant bacteria, viruses, fungi, mold and mildew. **LAVFRESH TB** is designed specifically as a general cleaner and disinfectant for use on hard, non-porous surfaces in homes, hospitals, public restrooms, and schools. It is formulated to disinfect hard, non-porous, inanimate environmental surfaces: floors, walls, and cabinets.

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#### Regulatory Summary

#### Physical Properties

<b>EPA Registration No.</b>	1839-83-62541
<b>USDA Authorization</b>	None
<b>California Status</b>	
<b>Canadian PCP#</b>	None
<b>Canadian Din #</b>	None

<b>pH of Concentrate</b>	11.7- 12.7
<b>Specific Gravity @ 25°C</b>	1.01 - 1.02
<b>Pounds per gallon @ 25°C</b>	8.38

<b>Flash Point (PMCC)</b>	>200°F
<b>% Quat (mol. wt.360.5)</b>	0.211 – 0.231
<b>% Volatile</b>	98.0 +

## 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.

^ ASTM International E1053-11 "Standard Test Method to Assess Virucidal Activity of Chemicals Intended for Disinfection of Inanimate, Nonporous Environmental Surfaces"

**Test Conditions:** ready-to-use (RTU), organic soil load, room temperature, glass petri dish substrates

### Results:

Test Organism	Sample	Titer Reduction	Contact Time
*Avian Influenza A Virus (H3N2) (Avian Reassortant) (ATCC VR-2072)	A&B	≥3.0 log <sub>10</sub>	2 minutes
*Avian Influenza Virus, Type A (Turkey/WIS/66) (H9N2)	A&B	≥4.83 log <sub>10</sub>	2 minutes
‡Bovine Viral Diarrhea Virus (BVDV)	A&B	≥3.0 log <sub>10</sub>	5 minutes
*Canine Parvovirus (ATCC VR-2017)	A&B	≥3.0 log <sub>10</sub>	10 minutes
•Feline Calicivirus (FCV)	A&B	6.48 log <sub>10</sub>	30 seconds
*Hepatitis A Virus (HAV)	A&B	≥3.0 log <sub>10</sub>	10 minutes
†Hepatitis B Virus (HBV) (Duck Hepatitis B Virus-DHBV)	A&B	≥3.3 log <sub>10</sub>	1 minute
‡Hepatitis C Virus (HCV) (Bovine Viral Diarrhea Virus-BVDV)	A&B	≥3.0 log <sub>10</sub>	1 minute
*Human Immunodeficiency Virus, HTLV-III <sub>RF</sub> , strain of HIV-1 (associated with AIDS)	A&B	≥3.5 log <sub>10</sub>	1 minute
*Human Coronavirus (ATCC VR-740, strain 229E)	A&B	≥3.0 log <sub>10</sub>	2 minutes
•Norovirus (Norwalk Virus)	A&B	6.48 log <sub>10</sub>	30 seconds
*Pandemic 2009 H1N1 Influenza A Virus	Refer to	note on next page	2 minutes
*Paramyxovirus (Mumps) (ATCC VR-1438)	A&B	≥3.0 log <sub>10</sub>	3 minutes
*Poliovirus Type 1, strain Brunhilde (ATCC VR-1000)	A&B	≥3.25 log <sub>10</sub>	10 minutes
*Rabies Virus (attenuated ERA strain, CDC)	A&B	3.0 log <sub>10</sub>	30 seconds
*Rhinovirus Type 39 (ATCC VR-340)	A&B	≥3.0 log <sub>10</sub>	3 minutes
*Rotovirus	A&B	≥3.0 log <sub>10</sub>	3 minutes
*SARS Associated Coronavirus (ZeptoMatrix)	A&B	4.03 log <sub>10</sub>	2 minutes
^SARS-CoV-2 (USA-WA1/2020)	A,B,&C	≥3.0 log <sub>10</sub>	1 minute

**Conclusion:** Under the conditions of this investigation, **LAVFRESH TB** demonstrated **virucidal** activity against Avian Influenza A Virus (H3N2), Avian Influenza Virus Type A (H9N2), 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, Norovirus (Norwalk Virus), Pandemic 2009 H1N1 Influenza A Virus, Paramyxovirus (Mumps), Poliovirus Type 1, Rabies, Rhinovirus Type 39, Rotovirus, SARS Associated Coronavirus, SARS-CoV-2 according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a virucide.

**Note:** Per the EPA guidance document dated October 21, 2009, disinfectant products that bear label claims against human, avian, or swine influenza A virus, and have submitted and received approval of efficacy data to support these label claims, may include a label claim against the Pandemic 2009 H1N1 Influenza A Virus.

## TUBERCULOCIDAL DATA:

**Test Method:** AOAC Confirmative In Vitro Test for Determining Tuberculocidal Activity

**Test Organism:** *Mycobacterium bovis* BCG

**Test Conditions:** ready-to-use (RTU), organic soil load, 5 minute contact time, glass slide carrier substrates

### Results:

Subculture Media	Sample	No. of Exposed Carriers	No. of Carriers Showing Growth
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, **LAVFRESH TB** demonstrated **tuberculocidal** activity against *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.

## Fungicidal Data:

**Test Method:** AOAC Germicidal Spray Products as Disinfectants

**Test Conditions:** ready-to-use (RTU), organic soil load, room temperature, glass slide carrier substrates

### Results:

Organism	Sample	Carriers Exposed	Carriers Positive	Contact Time
Trichophyton mentagrophytes (ATCC 9533)	A	60	0	10 minutes
	B	60	0	
	B	60	0	

**Conclusion:** Under the conditions of this investigation, **LAVFRESH TB** demonstrated **fungicidal** activity against *Trichophyton mentagrophytes* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungicide.

## BACTERICIDAL DATA:

**Test Method:** AOAC Germicidal Spray Products as Disinfectants

**Test Conditions:** ready-to-use (RTU), organic soil load, room temperature, glass slide carrier substrates

### Results:

Organism	Sample	Carriers Exposed	Carriers Positive	Contact Time
<i>Staphylococcus aureus</i> (ATCC 6538)	A	60	0	3 minutes
	B	60	1	
<i>Salmonella (Choleraesuis) enterica</i> (ATCC 10708)	A	60	0	3 minutes
	B	60	0	
<i>Pseudomonas aeruginosa</i> (ATCC 15442)	A	60	0	3 minutes
	B	60	0	
Community Associated Methicillin Resistant <i>Staphylococcus aureus</i> (CA-MRSA) (NRS 123) Genotype USA400	A	10	0	3 minutes
	B	10	0	
Community Associated Methicillin Resistant <i>Staphylococcus aureus</i> (CA-MRSA) (NRS 384) Genotype USA300	A	10	0	3 minutes
	B	10	0	
<i>Corynebacterium ammoniagenes</i> (ATCC 6871)	A	10	0	3 minutes
	B	10	0	
<i>Enterococcus faecium</i> (ATCC 6569)	A	10	0	3 minutes
	B	10	0	
<i>Escherichia coli</i> (ATCC 11229)	A	10	0	3 minutes
	B	10	0	
<i>Escherichia coli</i> O157:H7 (ATCC 43895)	A	10	0	3 minutes
	B	10	0	
<i>Listeria monocytogenes</i> (ATCC 35152)	A	10	0	3 minutes
	B	10	0	
Methicillin resistant <i>Staphylococcus aureus</i> (MRSA) (ATCC 33593)	A	10	0	3 minutes
	B	10	0	
Methicillin resistant <i>Staphylococcus epidermidis</i> (MRSE) (ATCC 51625)	A	10	0	3 minutes
	B	10	0	
<i>Salmonella (typhi) enterica</i> (ATCC 6539)	A	10	0	3 minutes
	B	10	0	
<i>Streptococcus pyogenes</i> (Necrotizing Fasciitis-Group A) (V.A. Medical Center Isolate 04001)	A	10	0	3 minutes
	B	10	0	
Vancomycin resistant <i>Enterococcus faecalis</i> (VRE) (ATCC 51575)	A	10	0	3 minutes
	B	10	0	
Vancomycin intermediate resistant <i>Staphylococcus aureus</i> (VISA) (CDC Isolate 99287)	A	10	0	3 minutes
	B	10	0	
<i>Yersinia enterocolitica</i> (ATCC 23715)	A	10	0	3 minutes
	B	10	0	

## **BACTERICIDAL DATA (Continued):**

**Conclusion:** Under the conditions of this investigation, **LAVFRESH TB** was **bactericidal** for *Staphylococcus aureus*, *Salmonella (choleraesuis) enterica*, *Pseudomonas aeruginosa*, Community Associated Methicillin Resistant *Staphylococcus aureus* (CA-MRSA) (NRS 123) Genotype USA400, Community Associated Methicillin Resistant *Staphylococcus aureus* (CA-MRSA) (NRS 384) Genotype USA300, *Corynebacterium ammoniagenes*, *Enterococcus faecium*, *Escherichia coli*, *Escherichia coli* O157:H7, *Listeria monocytogenes*, Methicillin resistant *Staphylococcus aureus* (MRSA), Methicillin resistant *Staphylococcus epidermidis* (MRSE), *Salmonella (typhi) enterica*, *Streptococcus pyogenes* (Necrotizing Fasciitis-Group A), Vancomycin resistant *Enterococcus faecalis* (VRE), Vancomycin intermediate resistant *Staphylococcus aureus* (VISA) and *Yersinia enterocolitica* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a bactericide.