



# SUMMARY OF ANTIMICROBIAL ACTIVITY

## FB-2

### RTU Disinfectant Spray Cleaner

#### Description

**FB-2 RTU Disinfectant Spray Cleaner** is a broad spectrum hard surface disinfectant. When used as directed, this product will deliver effective biocidal action against bacteria, fungi, and viruses. This formulation is a blend of a premium active ingredients and inerts: surfactants, chelates, and water. Biocidal performance is attained when this product is used as is. **FB-2** can be used to disinfect a wide variety of hard surfaces such as floors, walls, and countertops in hospitals, households, and institutions.

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#### Regulatory Summary

#### Physical Properties

<b>EPA Registration No.</b>	1839-83-40976
<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
<b>Specific Gravity @ 25°C</b>	1.0042
<b>Pounds per gallon @ 25°C</b>	8.38

<b>Flash Point (PMCC)</b>	>200°F
<b>% Quat (mol. wt.360.5)</b>	0.21 – 0.22
<b>% Volatile</b>	98.0 +

## Summary of Antimicrobial Test Results

FB-2 is a Hospital-grade Disinfectant and detergent, Virucide, Fungicide, Mildewstat, and Cleaner. Listed below, is a summary of the Antimicrobial Claims and a review of the etiology for each microbe.

Efficacy Claim No.	Name of Organism	Category and/or Source	Contact Time
<b>VIRUCIDAL ACTIVITY</b> (when used on environmental, inanimate hard surfaces)			
1	Canine Parvovirus	ATCC VR-2017	10 minutes
2	Bovine Viral Diarrhea Virus (BVDV)		5 minutes
3	Feline Calicivirus		30 seconds
4	Rabies Virus	attenuated ERA strain, CDC	30 seconds
5	Norovirus (Norwalk Virus)		30 seconds
6	Human Coronavirus		2 minutes
7	Hepatitis A Virus (HAV)	Hepadnavirus Testing	10 minutes
8	Hepatitis B Virus (HBV)	Duck Hepatitis B Virus-DHBV	5 minutes
9	Hepatitis C Virus (HCV)	Bovine Viral Diarrhea Virus-BVDV	5 minutes
10	Human Immunodeficiency Virus (HIV)	HTLV-III <sub>RF</sub>	1 minute
11	Poliovirus type 1	Chat strain	10 minutes
12	Human Coronavirus		2 minutes
13	SARS associated Coronavirus	ZeptoMetrix	2 minutes
14	Avian Influenza A (H3N2)	ATCC VR-2072	2 minute
15	Avian Influenza A (H9N2)	Charles River Labs	2 minutes
16	Rhinovirus type 39	ATCC VR-340	3 minutes
17	Paramyxovirus (Mumps)	ATCC VR-1438	3 minutes
18	Rotavirus		3 minutes
<b>BACTERICIDAL ACTIVITY AOAC test Methods (under GLP) in presence of 5% blood serum</b>			
19	Mycobacterium tuberculosis BCG	BCG	5 minutes
20	Listeria monocytogenes	ATCC 35152	3 minutes
21	Yersinia enterocolitica	ATCC 23715	3 minutes
22	Enterococcus faecium	ATCC 6569	3 minutes
23	Corynebacterium ammoniagenes	ATCC 6871	3 minutes
24	Salmonella typhi	ATCC 6539	3 minutes
25	Escherichia coli	ATCC 11229	3 minutes
26	Escherichia coli 0157:H7	ATCC 43895	3 minutes
27	Pseudomonas aeruginosa	ATCC 15442	3 minutes
28	Salmonella choleraesuis	ATCC 10708	3 minutes
29	Staphylococcus aureus	ATCC 6538	3 minutes
30	Vancomycin intermediate resistant Staphylococcus aureus ( <b>VISA</b> )	CDC Isolate 99287 (reduced susceptibility to Vancomycin)	3 minutes
31	Methicillin resistant Staphylococcus aureus ( <b>MRSA</b> )	ATCC 33593 (METHICILLIN resistant)	3 minutes
32	Community Associated Methicillin	NRS 123 Genotype	3 minutes

	resistant Staphylococcus aureus ( <b>CA-MRSA</b> )	USA400	
33	Community Associated Methicillin resistant Staphylococcus aureus ( <b>CA-MRSA</b> )	NRS 384 Genotype USA300	3 minutes
34	Vancomycin resistant Enterococcus faecalis ( <b>VRE</b> )	ATCC 51575 (VANCOMYCIN resistant)	3 minutes
35	Methicillin resistant Staphylococcus epidermidis	ATCC 51625	3 minutes
<b>FUNGICIDAL ACTIVITY</b>			
36	Trichophyton mentagrophytes	ATCC 9533	10 minutes

### Summary of Antimicrobial Efficacy – Etiology

Pathogenic Microorganism	Description
<b>BACTERIA</b>	
Pseudomonas aeruginosa	Gram negative bacteria identified as a major cause of hospital acquired (nosocomial) infections. Causes wound infections (especially burn), meningitis, pneumonia and eye infections. Required for Hospital Disinfectants.
Staphylococcus aureus	Gram positive bacteria identified as a major cause of hospital acquired (nosocomial) infections. Colonizes food and secretes enterotoxins which cause food poisoning after ingestion. Causes wound infections, septicemia, endocarditis, meningitis, osteomyelitis and pneumonia. Required for Hospital Disinfectants.
Salmonella choleraesuis	Gram negative bacteria associated with acute gastroenteritis and septicemia. Required for Hospital Disinfectants.
Listeria monocytogenes	Gram positive (rod shape) bacteria. Considered a potent food pathogen. Found in raw meat and poultry. Infections can result in meningitis or sepsis.
Escherichia coli	Gram negative bacteria spread by anal/oral route of infection, resulting in diarrhea outbreaks. Associated with urinary tract infections and bacteremia. E. coli 0157:H7 is the organism responsible for the virulent “jack-in-the-box” disease.
Enterococcus faecalis	Gram positive (Enterococci) bacteria causing hemolysis, urinary tract infections and endocarditis.
Salmonella typhi	Gram negative (rod shape) bacteria associated with acute gastroenteritis and diarrhea, the causative agent for typhoid fever.
Mycobacterium tuberculosis	Bacteria of genus <i>bacillus</i> that can form spores. Tuberculosis (TB) is a disease that is spread from person to person through the air. TB usually affects the lungs, but it can also affect other parts of the body, such as the brain, the kidneys, or the spine. TB germs are put into the air when a person with TB disease of the lungs or throat coughs or sneezes.
<b>FUNGI</b>	
Aspergillus niger	Black mold, found in shower and dressing rooms. Environmental contaminant may also cause “Aspergillosis.”
Trichophyton mentagrophytes	Athlete's foot fungus. Found in shower and dressing rooms.
<b>VIRUSES</b>	

Canine parvovirus	Causes diarrhea, vomiting, fever, loss of appetite in dogs. Obtained from food or water consumed by dogs.
Hepatitis B virus (HBV)	A hepadnavirus, a relatively new class of viruses. Partially double stranded DNA virus with three distinct morphologies. Occurs when blood or body fluids from an infected person enters the body of a person who is not immune. Hepatitis B is a serious disease caused by a virus that attacks the liver. The virus, which is called hepatitis B virus (HBV), can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death.

Pathogenic Microorganism	Description
Hepatitis C virus (HCV)	A hepadnavirus, a relatively new class of viruses. Partially double stranded DNA virus with three distinct morphologies. Often referred to as Non-A, Non-B Hepatitis. A blood borne pathogen causes degeneration of the liver.
HIV-1 (AIDS Virus)	Lipophilic (enveloped) RNA retrovirus. Human Immunodeficiency Virus. Known to be the etiologic agent of Acquired Immunodeficiency Syndrome (AIDS).
Norwalk Virus	"Norwalk-like viruses" (NLVs) cause outbreaks of gastroenteritis and are spread frequently through contaminated food or water. Noroviruses are transmitted primarily through the fecal-oral route, either by consumption of fecally contaminated food or water or by direct person-to-person spread. Environmental and fomite contamination may also act as a source of infection.
Human Coronavirus	Severe acute respiratory syndrome (SARS) is a viral respiratory illness caused by a coronavirus, called SARS-associated coronavirus (SARS-CoV). SARS begins with a high fever (temperature greater than 100.4°F [ $>38.0^{\circ}\text{C}$ ]). Other symptoms may include headache, an overall feeling of discomfort, and body aches. Some people also have mild respiratory symptoms at the outset. About 10 percent to 20 percent of patients have diarrhea. After 2 to 7 days, SARS patients may develop a dry cough. Most patients develop pneumonia.
Rabies Virus	A member of the Rhabdoviridae family or RNA viruses. These bullet shaped viruses are enveloped by a lipid bilayer. The causative agent for "rabies", an encephalitis that causes neuronal degeneration-- almost always fatal.
Poliovirus type 1	Poliovirus is a member of the enterovirus subgroup, family Picornaviridae. Enteroviruses are transient inhabitants of the gastrointestinal tract, and are stable at acid pH. Person-to-person spread of poliovirus via the fecal-oral route is the most important route of transmission,
Trichophyton mentagrophytes	Athlete's foot fungus. Found in shower and dressing rooms. Also the causative agent of Ring Worm, a fungi that is transmitted through non-socomal contact (e.g. activity mats, wrestling mats, etc)