

CAVICIDE1



Technical Bulletin

CaviCide1 is a multi-purpose disinfectant intended for use in cleaning, decontaminating and disinfecting hard non-porous, inanimate surfaces and non-critical instruments in hospitals, laboratories, and other critical care areas where environmental control of cross contamination between treated surfaces is important.

CaviCide1 has biocidal effectiveness against the following microorganisms with a 1 minute contact time:

Mycobacterium tuberculosis var. bovis (BCG)
Trichophyton mentagrophytes
Candida albicans
Pseudomonas aeruginosa
Salmonella enterica
Staphylococcus aureus
Bordetella pertussis
Methicillin Resistant *Staphylococcus aureus* (MRSA)
Methicillin Resistant *Staphylococcus epidermidis* (MRSE)
Klebsiella pneumonia
Vancomycin Resistant *Enterococcus faecalis* (VRE)
Multi-Drug Resistant *Acinetobacter baumannii*
Vancomycin- Intermediate *Staphylococcus aureus* (VISA)
Extended Spectrum β -lactamase *Escherichia coli* (ESBL)
Hepatitis B Virus (HBV)
Hepatitis C Virus (HCV)
Influenza A Virus (H3N2)
Herpes Simplex Virus Type 1
Herpes Simplex Virus Type 2
Human Immunodeficiency Virus Type 1 (HIV-1)
Human Coronavirus
Norovirus

The following Efficacy studies were performed on CaviWipes1 Surface Disinfectant/ Decontaminant Cleaner. CaviWipes1 are disinfecting towelettes pre-saturated with CaviCide1. The results of these studies are bridged to support the CaviCide1 product efficacy.

Tuberculocidal Efficacy Studies:

Mycobacterium tuberculosis var. bovis (BCG)

“Testing Pre-Saturated or Impregnated Towelettes for Tuberculocidal Effectiveness”
Microbiotest. November 30, 2010. Lab ID # 198-577.

Conclusion: CaviWipes1 passed the Testing Pre-Saturated or Impregnated Towelettes for Tuberculocidal Effectiveness test when *Mycobacterium bovis* BCG, containing 5% organic load, was exposed to CaviCide1 as described in the test conditions section for one minute at 20±1°C.

Fungicidal and Yeast Efficacy Studies:

Trichophyton mentagrophytes

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection- Fungicidal- *Trichophyton mentagrophytes*”

Microbiotest. December 23, 2010. Lab # 198-605

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Fungicidal” test when *Trichophyton mentagrophytes*, containing a 5% organic load, was exposed to the test agent for one minute at 20±1°C.

Candida albicans

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection Supplemental- *Candida albicans*”

Microbiotest. December 23, 2010. Lab # 198-608

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Supplemental” test when *Candida albicans*, containing a 5% organic load, was exposed to the test agent for one minute at 20±1°C.

Bactericidal Efficacy Studies:

Staphylococcus aureus

Pseudomonas aeruginosa

Salmonella enterica

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection Healthcare”
Microbiotest. October 25, 2010. Lab ID # 198-582.

Conclusion: CaviWipes1 passed the Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Healthcare test when *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Salmonella enterica* were exposed to the test agent for 1 minute at 20±1°C.

Bordetella pertussis

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection- Supplemental- *Bordetella pertussis*”

Microbiotest. December 30, 2010. Lab ID # 198-607.

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Supplemental” test when *Bordetella pertussis*, containing a 5% organic load, was exposed to the test agent for 1 minute at 20±1°C.

Methicillin Resistant *Staphylococcus aureus* (MRSA)

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection- Supplemental- Methicillin Resistant *Staphylococcus aureus* (MRSA)”

Microbiotest. November 29, 2010. Lab ID # 198-601.

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Supplemental” test when Methicillin Resistant *Staphylococcus aureus* (MRSA) was exposed to the test agent for 1 minute at 20±1°C.

Methicillin Resistant *Staphylococcus epidermidis* (MRSE)

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection-Supplemental- Methicillin Resistant *Staphylococcus epidermidis* (MRSE)”

Microbiotest. November 29, 2010. Lab ID # 198-604.

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Supplemental” test when Methicillin Resistant *Staphylococcus epidermidis* (MRSE) was exposed to the test agent for 1 minute at 20±1°C.

Klebsiella pneumonia

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection-Supplemental- *Klebsiella pneumonia*”

Microbiotest. December 14, 2010. Lab ID # 198-606.

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Supplemental” test when *Klebsiella pneumonia*, containing a 5% organic load, was exposed to the test agent for 1 minute at 20±1°C.

Vancomycin Resistant *Enterococcus faecalis* (VRE)

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection-Supplemental- Vancomycin Resistant *Enterococcus faecalis* (VRE)”

Microbiotest. November 29, 2010. Lab ID # 198-602.

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Supplemental” test when Vancomycin Resistant *Enterococcus faecalis* (VRE) was exposed to the test agent for 1 minute at 20±1°C.

Multi-Drug Resistant *Acinetobacter baumannii*

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection-Supplemental- Multi-Drug Resistant *Acinetobacter baumannii*”

Microbiotest. November 30, 2010. Lab ID # 198-600.

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Supplemental” test when Multi-Drug Resistant *Acinetobacter baumannii*, containing a 5% organic load, was exposed to the test agent for 1 minute at 20±1°C.

Vancomycin- Intermediate *Staphylococcus aureus* (VISA)

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection-Supplemental- Vancomycin- Intermediate *Staphylococcus aureus*”

Microbiotest. November 30, 2010. Lab ID # 198-603.

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Supplemental” test when Vancomycin- Intermediate *Staphylococcus aureus*, containing a 5% organic load, was exposed to the test agent for 1 minute at 20±1°C.

Extended Spectrum β -lactamase *Escherichia coli* (ESBL)

“Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection-Supplemental- Extended Spectrum β -lactamase *Escherichia coli* (ESBL)”

Microbiotest. November 30, 2010. Lab ID # 198-609.

Conclusion: CaviWipes1 passed the “Testing Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection – Supplemental” test when Extended Spectrum β -lactamase *Escherichia coli* (ESBL), containing a 5% organic load, was exposed to the test agent for 1 minute at 20±1°C.

Virucidal Efficacy Studies:

Hepatitis B Virus (HBV)

“Pre-Saturated or Impregnated Towelette Initial Virucidal Effectiveness Test Duck Hepatitis B Virus (Surrogate for Human Hepatitis B virus)”

Microbiotest. December 30, 2010. Lab ID # 198-586

Conclusion: CaviWipes1 passed the Pre-Saturated or Impregnated Towelette Initial Virucidal Effectiveness Test Duck Hepatitis B Virus (Surrogate for Human Hepatitis B virus), containing at least 5% organic soil, was exposed to the test agent for 1 minute at 20±1°C.

“Pre-Saturated or Impregnated Towelette Confirmatory Virucidal Effectiveness Test Duck Hepatitis B Virus (Surrogate for Human Hepatitis B virus)”

Microbiotest. December 21, 2010. Lab ID # 198-587

Conclusion: CaviWipes1 passed the Pre-Saturated or Impregnated Towelette Confirmatory Virucidal Effectiveness Test Duck Hepatitis B Virus (Surrogate for Human Hepatitis B virus), containing at least 5% organic soil, was exposed to the test agent for 1 minute at 20±1°C.

Hepatitis C Virus (HCV)

“Pre-Saturated or Impregnated Towelette Initial Virucidal Effectiveness Test Bovine Viral Diarrhea Virus (Surrogate for Human Hepatitis C Virus)”

Microbiotest. December 20, 2010. Lab ID # 198-593

Conclusion: CaviWipes1 passed the Pre-Saturated or Impregnated Towelette Initial Virucidal Effectiveness Test when Bovine Viral Diarrhea Virus, containing at least 5% organic soil, was exposed to the test agent for 1 minute at 20±1°C.

“Pre-Saturated or Impregnated Towelette Confirmatory Virucidal Effectiveness Test Bovine Viral Diarrhea Virus (Surrogate for Human Hepatitis C Virus)”

Microbiotest. January 4, 2011. Lab ID # 198-594

Conclusion: CaviWipes1 passed the Pre-Saturated or Impregnated Towelette Virucidal Effectiveness Test when Bovine Viral Diarrhea Virus (Surrogate for Human Hepatitis C Virus), containing at least 5% organic soil, was exposed to the test agent for 1 minute at 20±1°C.

Influenza A Virus (H3N2)

“Pre-Saturated or Impregnated Towelette Virucidal Efficacy Test Human Influenza A Virus (H3N2)”

Microbiotest. December 6, 2010. Lab ID # 198-591

Conclusion: CaviWipes1 passed the Pre-Saturated or Impregnated Towelette Virucidal Effectiveness Test when Human Influenza A Virus (H3N2), containing at least 5% organic soil, was exposed to the test agent for 1 minute at 20±1°C.

Herpes Simplex Virus Type 1

“Pre-Saturated or Impregnated Towelette Virucidal Efficacy Test Herpes Simplex Virus Type 1”

Microbiotest. December 21, 2010. Lab ID # 198-589

Conclusion: CaviWipes1 passed the Pre-Saturated or Impregnated Towelette Virucidal Effectiveness Test when Herpes Simplex Virus Type 1, containing at least 5% organic soil, was exposed to the test agent for 1 minute at 20±1°C.

Herpes Simplex Virus Type 2

“Pre-Saturated or Impregnated Towelette Virucidal Efficacy Test Herpes Simplex Virus Type 2”

Microbiotest. January 4, 2011. Lab ID # 198-590

Conclusion: CaviWipes1 passed the Pre-Saturated or Impregnated Towelette Virucidal Effectiveness Test when Herpes Simplex Virus Type 2, containing at least 5% organic soil, was exposed to the test agent for 1 minute at 20±1°C.

Human Immunodeficiency Virus Type 1 (HIV-1)

“Pre-Saturated or Impregnated Towelette Virucidal Efficacy Test Human Immunodeficiency Virus Type 1”

Microbiotest. December 21, 2010. Lab ID # 198-588

Conclusion: CaviWipes1 passed the Pre-Saturated or Impregnated Towelette Virucidal Effectiveness Test when Human Immunodeficiency Virus Type 1, containing at least 5% organic soil, was exposed to the test agent for 1 minute at 20±1°C.

Human Coronavirus (229E strain)

“Pre-Saturated or Impregnated Towelette Virucidal Efficacy Test Human Coronavirus (229E strain)”

Microbiotest. January 4, 2011. Lab ID # 198-597

Conclusion: CaviWipes1 passed the Pre-Saturated or Impregnated Towelette Virucidal Effectiveness Test when Human Coronavirus (229E strain), containing at least 5% organic soil, was exposed to the test agent for 1 minute at 20±1°C.

The following Efficacy studies were performed on CaviCide1 Surface Disinfectant/Decontaminant Cleaner.

Norovirus

“Initial Virucidal Hard-Surface Efficacy Test – Feline calicivirus (Surrogate for Human Norovirus)”

Microbiotest, March 25, 2013 Laboratory ID # 198-675

Conclusion: CaviCide1 passed the Initial Virucidal Hard-Surface Efficacy Test when Feline calicivirus (Surrogate for Human Norovirus), containing at least 5% organic soil, was exposed to CaviCide1 for 55 seconds at 20°C±1°C.

“Confirmatory Virucidal Hard-Surface Efficacy Test – Feline calicivirus (Surrogate for Human Norovirus)”

Microbiotest, March 26, 2013 Laboratory ID # 198-676

Conclusion: CaviCide1 passed the Confirmatory Virucidal Hard-Surface Efficacy Test when Feline calicivirus (Surrogate for Human Norovirus), containing at least 5% organic soil, was exposed to CaviCide1 for one minute at 20°C±1°C.

Toxicity Studies

Acute Eye Irritation Study
Acute Dermal Irritation Study
Acute Inhalation Study
Acute Dermal Toxicity Study
Acute Oral Toxicity Study
Skin Sensitization Study

Acute Eye Irritation Study

“Acute Eye Irritation Study in Rabbits”

Stillmeadow, Inc. October 28, 2010 Laboratory ID # 14313-10

Conclusion: Three albino rabbits were employed to evaluate the potential acute eye irritation effects of CaviCide1. Based on the average irritation scores, CaviCide1 is rated moderately irritating. All positive effects cleared on Day 10.

Acute dermal Irritation Study

“Acute dermal Irritation Study in Rabbits”

Stillmeadow, Inc. October 8, 2010 Laboratory ID # 14314-10

Conclusion: Three albino rabbits were employed to evaluate the primary dermal irritation effects of CaviCide1. Based on the irritation scores, CaviCide1 is rated slightly irritating.

Acute Inhalation Study

“Acute Inhalation Study in Rats”

Stillmeadow, Inc. November 5, 2010 Laboratory ID # 14312-10

Conclusion: CaviCide1 was evaluated for its acute inhalation toxicity potential in albino rats. As indicated by the data, the acute inhalation LC₅₀ is greater than 2.16mg/L.

Acute Dermal Toxicity

“Acute Dermal Toxicity Study in Rats”

Stillmeadow, Inc. November 3, 2010 Laboratory ID # 14311-10

Conclusion: CaviCide1 was evaluated for its dermal toxicity potential and relative skin irritancy when a single undiluted dose was applied to the intact skin of albino rats. The estimated LD₅₀, as indicated by the data, was determined to be greater than 5050mg/kg.

Acute Oral Toxicity

“Acute Oral Toxicity (UDP) in Rats”

Stillmeadow, Inc. November 16, 2010 Laboratory ID # 14310-10

Conclusion: CaviCide1 was evaluated for its acute oral toxicity potential in female albino rats. The study revealed no observable abnormalities. The acute oral LD₅₀ is estimated to be greater than 5000mg/kg.

Skin Sensitization Study

“Skin Sensitization Study in Guinea Pigs”

Stillmeadow, Inc. November 16, 2010 Laboratory ID # 14315-10

Conclusion: CaviCide1 was evaluated for its potential to produce a sensitizing reaction in short-haired albino guinea pigs. CaviCide 1 produced no irritation during the test. CaviCide1 did not elicit a sensitizing reaction in guinea pigs.