



# Micro-Kill® AF<sup>2</sup>

Technical data bulletin  
EPA Reg. No. 6836-372-37549

## Product Description

Medline Micro-Kill AF<sup>2</sup> wipes are a quat-based disinfectant that reduce cross contamination on hard, non-porous treated surfaces and are a one-step hospital disinfectant designed for general cleaning and disinfecting of hard, non-porous surfaces when used according to the directions for disinfection. Two-minute kill time for the listed pathogens on product label. Kills 47 micro-organisms on hard, non-food, non-porous surfaces.

## Chemical composition

Active Ingredients:	Percentage
Poly(hexamethylenebiguanide) hydrochloride	0.0890%
Octyl decyl dimethyl ammonium chloride	0.1333%
Dioctyl dimethyl ammonium chloride	0.0534%
Didecyl dimethyl ammonium chloride	0.0799%
Alkyl (C14, 50%; C12, 40%; C16, 10%) dimethyl benzyl ammonium chloride	0.1778%
<b>Other Ingredients:</b>	<b>99.4666%</b>
<b>Total</b>	<b>100.0000%</b>



MSC351000

MSC351010

## Efficacy

### Fungicidal organism efficacy

<b>Organism</b>	<i>Candida albicans</i> (ATCC 10231)
<b>Test method used</b>	ASTM E2362 Standard Practice for Evaluation of Pre-saturated or Impregnated Towelettes for Hard Surface Disinfection
<b>Organic soil load</b>	5% Fetal Bovine Serum
<b>Exposure time</b>	2 minutes at room temperature

### Results

Micro-Kill AF<sup>2</sup> Wipes demonstrated fungicidal efficacy against *Candida albicans* according to the performance requirements set forth by the U.S. Environmental Protection Agency following a two-minute exposure at room temperature in the presence of a 5% Fetal Bovine Serum organic soil load and therefore entitled to make *Candida albicans* claims.

### Multi-drug resistant bacteria

### Organism

- Enterococcus faecalis* – Vancomycin Resistant (ATCC 51575)
- Staphylococcus aureus* – Community Associated Methicillin-Resistant (NRS384) (USA300) (NARSA NRS 384)
- Staphylococcus aureus* – Community Associated Methicillin-Resistant (NRS123) (USA400) (NARSA NRS 123)
- Staphylococcus aureus* – Methicillin-Resistant (ATCC 33592)
- Staphylococcus aureus* – Multi-Drug Resistant (ATCC 14154)
- Staphylococcus aureus* – Vancomycin Intermediate Resistant (HIP 5836)
- Staphylococcus aureus* – Vancomycin Resistant (NARSA VRS1)
- Streptococcus pneumoniae* – Penicillin Resistant (ATCC 700677)
- Acinetobacter baumannii* – Multi-Drug Resistant (ATCC 19606)
- Escherichia coli*, ESBL (ATCC BAA-196)
- Klebsiella pneumoniae*, Carbapenem Resistant (ATCC BAA-1705)
- Klebsiella pneumoniae*, ESBL (ATCC 700603)
- Klebsiella pneumoniae* – NDM-1 Positive (CDC 1000527)
- Escherichia coli* – NDM-1 Positive (CDC 1001728)

<b>Test method used</b>	ASTM E2362 Standard Practice for Evaluation of Pre-saturated or Impregnated Towelettes for Hard Surface Disinfection
<b>Organic soil load</b>	5% Fetal Bovine Serum
<b>Exposure time</b>	2 minutes at room temperature

<b>Incubation</b>	48±2 hours at 36±1°C
<b>Results</b>	Micro-Kill® AF <sup>2</sup> demonstrated bactericidal efficacy against this list of bacteria according to the performance requirements set forth by the U.S. Environmental Protection Agency following a two-minute exposure at room temperature in the presence of a 5% Fetal Bovine Serum organic serum load and therefore entitled to make bactericidal activity claims.

## Gram-positive bacteria

<b>Organism</b>	<i>Staphylococcus aureus</i> (ATCC 6538) <i>Enterococcus faecalis</i> (ATCC 29212) <i>Listeria monocytogenes</i> (ATCC 19117) <i>Streptococcus pyogenes</i> (ATCC 19615)
<b>Test method used</b>	ASTM E2362 Standard Practice for Evaluation of Pre-saturated or Impregnated Towelettes for Hard Surface Disinfection
<b>Organic soil load</b>	5% Fetal Bovine Serum
<b>Exposure time</b>	2 minutes at room temperature
<b>Incubation</b>	48±2 hours at 36±1°C
<b>Results</b>	Micro-Kill AF <sup>2</sup> demonstrated bactericidal efficacy against this list of bacteria according to the performance requirements set forth by the U.S. Environmental Protection Agency following a two-minute exposure at room temperature in the presence of a 5% Fetal Bovine Serum organic serum load and therefore entitled to make bactericidal activity claims.

## Gram-negative bacteria

<b>Organism</b>	<i>Acinetobacter baumannii</i> (ATCC 19606) <i>Pseudomonas aeruginosa</i> (ATCC 15442) <i>Salmonella enterica</i> (ATCC 10708) <i>Burkholderia cepacia</i> (ATCC 25416) <i>Campylobacter jejuni</i> (ATCC 29428) <i>Klebsiella aerogenes</i> (ATCC 13048) <i>Escherichia coli</i> (ATCC 11229) <i>Escherichia coli</i> O157:H7 (ATCC 35150) <i>Klebsiella pneumoniae</i> (ATCC 4352) <i>Proteus vulgaris</i> (ATCC 9920) <i>Salmonella enterica</i> serovar Typhi (ATCC 6539) <i>Shigella dysenteriae</i> (ATCC 11835) <i>Vibrio cholerae</i> (ATCC 11623)
<b>Test method used</b>	ASTM E2362 Standard Practice for Evaluation of Pre-saturated or Impregnated Towelettes for Hard Surface Disinfection
<b>Organic soil load</b>	5% Fetal Bovine Serum
<b>Exposure time</b>	2 minutes at room temperature
<b>Incubation</b>	48±2 hours at 36±1°C
<b>Results</b>	Micro-Kill AF <sup>2</sup> demonstrated bactericidal efficacy against this list of bacteria according to the performance requirements set forth by the U.S. Environmental Protection Agency following a two-minute exposure at room temperature in the presence of a 5% Fetal Bovine Serum organic serum load and therefore entitled to make bactericidal activity claims.

## Virucidal organism efficacy

### Bloodborne viruses

<b>Organism</b>	Hepatitis B Virus (BHBV, 10-29-11 Strain) Hepatitis C Virus (Oregon C24v-genotype 1 strain, BVDV) HIV-1 (Type 1, Strain HTLV-III <sub>B</sub> )
<b>Test method used</b>	ASTM E1053 Standard Test Method to Assess Virucidal Activity of Chemicals Intended for Disinfection of Inanimate, Nonporous Environmental Surfaces
<b>Organic soil load</b>	Hepatitis B Virus: 100% Duck Serum Hepatitis C Virus: 5% Horse Serum HIV-1: 5% Fetal Bovine Serum
<b>Exposure time</b>	2 minutes at room temperature
<b>Results</b>	Micro-Kill® AF <sup>2</sup> demonstrated viral efficacy against this list of viruses according to the performance requirements set forth by the U.S. Environmental Protection Agency following a two-minute exposure at room temperature in the presence of an organic serum load and therefore entitled to make virucidal activity claims.



## Large non-enveloped viruses

<b>Organism</b>	Rotavirus (Strain WA)
<b>Test method used</b>	ASTM E1053 Standard Test Method to Assess Virucidal Activity of Chemicals Intended for Disinfection of Inanimate, Nonporous Environmental Surfaces
<b>Organic soil load</b>	5% Fetal Bovine Serum
<b>Exposure time</b>	2 minutes at room temperature
<b>Results</b>	Micro-Kill AF <sup>2</sup> demonstrated viral efficacy against Rotavirus (Strain WA) according to the performance requirements set forth by the U.S. Environmental Protection Agency following a two-minute exposure at room temperature in the presence of a 5% Fetal Bovine Serum organic serum load and therefore entitled to make Rotavirus (Strain WA) claims.

<b>Test method used</b>	ASTM E1053 Standard Test Method to Assess Virucidal Activity of Chemicals Intended for Disinfection of Inanimate, Nonporous Environmental Surfaces
<b>Organic soil load</b>	5% Fetal Bovine Serum
<b>Exposure time</b>	2 minutes at room temperature
<b>Results</b>	Micro-Kill AF <sup>2</sup> demonstrated viral efficacy against this list of viruses according to the performance requirements set forth by the U.S. Environmental Protection Agency following a two-minute exposure at room temperature in the presence of a 5% Fetal Bovine Serum organic serum load and therefore entitled to make virucidal activity claims.

## Enveloped viruses

<b>Organism</b>	<p>Herpes Simplex Virus Type 1 (ATCC VR-733, Strain F(1))</p> <p>Herpes Simplex Virus Type 2 (ATCC VR-734, Strain G)</p> <p>Human Coronavirus (ATCC VR-740, strain 229E)</p> <p>Human Influenza A Virus (H7N9) (CDCP CCID/NCIRD/ID/MVVB)</p> <p>Influenza A Virus H3N2 (ATCC VR-544)</p> <p>2009-H1N1 Influenza A Virus (Novel H1N1) (Strain A/Mexico/4108/2009, CDC # 2009712192)</p> <p>Respiratory Syncytial Virus (ATCC VR-26, Strain Long)</p> <p>SARS Associated Coronavirus (CDC Strain 200300592)</p> <p>SARS-Related Coronavirus 2 (SARS-CoV-2) (Strain USA-WA1-2020)</p> <p>Avian Influenza Virus (H3N2) (ATCC VR-2072)</p> <p>Avian Influenza Virus (H5N1) (NIBRG-14)</p>
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