

# Efficacy Data for Sani Cide Plus

Multi-Range Sanitizer & Disinfectant



**Sani Cide Plus** is a "One-Step" Hospital Disinfectant, Virucide, Fungicide, and Sanitizer. Listed below, and in the following pages, is a summary of the Antimicrobial Claims and a review of the test results.

<b>Claim:</b> Disinfectant	<b>Contact Time:</b> 10 minutes	<b>Organic Soil:</b> 5%	<b>Water Conditions:</b> Deionized
<b>Test Method:</b> Official Method of the AOAC, 14 Edition Use-Dilution Method			

Organism	ATCC#	Dilution
Brevibacterium ammoniagenes	6871	450 ppm
Campylobacter jejuni	29428	450 ppm
Citrus Canker	USDA 46190	2000 ppm (pre-clean)
Escherichia coli	11229	450 ppm
Escherichia coli <sup>2</sup>	35150	450 ppm
Klebsiella pneumoniae	4352	450 ppm
Listeria monocytogenes	19115	450 ppm
Pseudomonas aeruginosa	15442	450 ppm
Pseudomonas cepacia	17765	450 ppm
Pseudomonas cepacia	25416	450 ppm
Pseudomonas cepacia	25608	450 ppm
Salmonella enterica	10708	450 ppm
Salmonella typhi	6539	450 ppm
Staphylococcus aureus	6538	450 ppm
Staphylococcus aureus CA-MRSA	NARSA 123, USA400	450 ppm
Staphylococcus aureus MRSA	33592	450 ppm
Yersinia enterocolitica	9610	450 ppm

**Conclusion:** All lots of **Sani Cide Plus** effectively killed the above listed bacteria as specified in the test performance standards. **Sani Cide Plus** meets EPA requirements for hard surface disinfectant claims in hospital and medical environments when diluted as directed.

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## Summary of Antimicrobial Test Results

<b>Claim:</b> Virucide	<b>Contact Time:</b> Varies	<b>Organic Soil:</b> 5%	<b>Water Conditions:</b> Deionized
<b>Test Method:</b> EPA Guidelines			

Organism	Source of Virus or ATCC#	Contact Time	Dilution
Adenovirus Type 5	ATCC VR-5	10 Min	450 ppm
Adenovirus Type 7	VR-7	10 Min	450 ppm
Avian Infectious Laryngotracheitis Virus	Avian infectious Laryngotracheitis virus	10 Min	450 ppm
Avian Influenza	Turkey/WIS SPAFAS LAB	10 Min	450 ppm
Avian Influenza Virus (H5N1)	Strain VNH5N1-PR8/CDCRG		450 ppm
Canine Distemper	VR-128	10 Min	450 ppm
Norovirus @ 0.78oz/gallon or 3.5oz/4.5gallon see note	ASTM E1053-97 Feline Calicivirus (FCV)	10 Min	450 ppm
Hepatitis B Virus (HBV)	Hepadnavirus Testing	10 Min	450 ppm
Hepatitis C Virus (HCV)	Bovine Viral Diarrhea Virus	10 Min	450 ppm
Herpes Simplex Type 1	HSV-1 Sabin	10 Min	450 ppm
Herpes Simplex Type 2	HSV-2 Sabin	10 Min	450 ppm
Human Coronavirus	VR-740, Strain 229E	60 seconds	450 ppm
Human Immunodeficiency Virus (HIV)	HIV Type 1	10 Min	450 ppm
Infectious Bronchitis (Arkansas 99)	Arkansas 99	10 Min	450 ppm
Influenza A2/ Hong Kong	ATCC 68-H3N2	10 Min	450 ppm
Marek's Disease	SB-1	10 Min	450 ppm
Pseudorabies Virus	VR-135	10 Min	450 ppm
SARS Associated Human Coronavirus	CDC Strain 200300592	10 Min	450 ppm
Newcastle's Disease	VR 108	10 Min	450 ppm
Vaccinia	Wyeth strain	10 Min	450 ppm

**Conclusion:** All lots of **Sani Cide Plus** effectively inactivated the above listed viruses as specified in the test performance standards. **Sani Cide Plus** meets EPA requirements for hard surface virucidal claims in hospital and medical environments.

Note: COVID-19 is caused by SARS-CoV-2, a novel coronavirus. Sani-Cide Plus kills similar viruses and therefore can be used against SARS-CoV-2 when used in accordance with the directions for use against Norovirus on hard, non-porous surfaces. Refer to the CDC website at <https://www.cdc.gov/coronavirus/2019-ncov/index.html> for additional information.

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<b>Claim:</b> Fungicide	<b>Contact Time:</b> 10 minutes	<b>Organic Soil:</b> 5%	<b>Water Conditions:</b> Deionized
<b>Test Method:</b> Official Method of Analysis of the AOAC Fungicidal Test.			

Organism	ATCC#	Dilution
Trichophyton mentagrophytes	9533	450 ppm (0.78 oz/gal)
Aspergillus niger	6275	450 ppm (0.78 oz/gal)

**Conclusion:** All lots of **Sani Cide Plus** effectively killed Trichophyton mentagrophytes as specified in the test performance standards. **Sani Cide Plus** is an effective fungicide for nonporous inanimate hard surfaces when diluted 1:164 in the presence of 5% organic soil.

## Summary of Antimicrobial Test Results

<b>Claim:</b> Sanitizer Food Surfaces	<b>Contact Time:</b> 60 seconds	<b>Organic Soil:</b> Pre-clean	<b>Water Conditions:</b> Varies in CaCO <sub>3</sub> ppm
<b>Test Method:</b> Sanitizer: AOAC Germicidal and Detergent Sanitizer, For Inanimate Food Contact Surfaces			

Organism	ATCC#	Dilution	Water Conditions
Campylobacter jejuni	29428	200 ppm (0.34 oz/gal)	500 ppm
Escherichia coli	11229	150 ppm (0.25 oz/gal)	400 ppm
Escherichia coli	11229	200 ppm	500 ppm
Escherichia <sup>2</sup> coli	35150	200 ppm	500 ppm
Escherichia coli	11229	400 ppm	1000 ppm
Klebsiella Pneumoniae	4352	200 ppm	500 ppm
Listeria monocytogenes	19115	200 ppm	500 ppm
Salmonella enterica	10708	200 ppm	500 ppm
Shigella sonnei	11060	200 ppm	500 ppm
Staphylococcus aureus	6538	150 ppm	400 ppm
Staphylococcus aureus	6538	200 ppm	500 ppm
Staphylococcus aureus	6538	400 ppm	1000 ppm
Staphylococcus aureus CA-MRSA	NARSA 123, USA 400	200 ppm	500 ppm
Staphylococcus aureus CA-MRSA	NARSA 384, USA 300	200 ppm	500 ppm
Staphylococcus aureus MRSA	33592	200 ppm	500 ppm
Yersinia enterocolitica	9610	200 ppm	500 ppm

**Conclusion:** All lots of **Sani Cide Plus** effectively killed the above listed bacteria as specified in the test performance standards with greater than 99.99% reduction within one minute. **Sani Cide Plus** is an effective Food Contact Sanitizer against the above listed bacteria on hard non-porous surfaces when diluted as indicated in synthetic hard water.

<sup>2</sup>Escherichia coli 0157: H7 - Pathogenic

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<b>Claim:</b> Sanitizer Non-Food	<b>Contact Time:</b> 60 seconds	<b>Organic Soil:</b> 5%	<b>Water Conditions:</b> 1100 in CaCO <sub>3</sub> ppm
<b>Test Method:</b> Sanitizer: AOAC Germicidal and Detergent Sanitizer for inanimate, non-food contact surfaces.			

Organism	ATCC#	Dilution
Klebsiella pneumoniae	4352	200 ppm
Staphylococcus aureus	6538	200 ppm

**Conclusion:** **Sani Cide Plus** effectively killed the above listed bacteria as specified in the test performance standards with greater than 99.9% reduction within one minute. **Sani Cide Plus** is effective as a Non-Food Contact Sanitizer against the above listed bacteria on hard, non-porous surfaces when diluted as indicated.

# Sani Cide Plus

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## Summary of Antimicrobial Efficacy - Etiology<sup>1</sup>

Pathogenic Microorganism	Description
Avian Influenza Virus	A highly contagious virus which can cause up to 100% mortality in domestic fowl. Spread through direct or indirect contact with each other or equipment or humans
Brevibacterium ammoniagenes	Gram positive bacteria environmental contaminant. Associated with industrial contamination.
Campylobacter jejuni	Gram negative bacteria associated with acute gastroenteritis. Spread by anal/oral route of infection, resulting in diarrhea outbreaks.
Canine Distemper Virus	An RNA virus causing fever, lack of appetite, and depression leading to more serious symptoms such as coughing, vomiting, diarrhea, and death in canines.
Citrus Canker	A highly contagious disease for citrus crops caused by bacteria which can defoliate crops as well as reduce fruit quality and cause premature fruit drop.
Escherichia coli	Gram negative bacteria spread by anal/oral route of infection, resulting in diarrhea outbreaks. Associated with urinary tract infections and bacteremia.
Herpes Simplex Type 1 & 2	Lipophilic (enveloped) DNA virus, may result in oral mucocutaneous lesions. Associated with most orofacial herpes and HSV encephalitis.
Infectious Bronchitis Virus – Arkansas 99	Effects are loss of egg production in chickens.
Influenza A2/Hong Kong	Lipophilic (enveloped) RNA virus. Causative agent in viral flu. Causes flu epidemics in nearly 2 of every 3 years.
Klebsiella pneumoniae	Gram negative bacteria associated with severe pneumonia, bacteremia and urinary tract infections.
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.
Marek's Disease Virus	A chicken herpes virus causing abnormal cell growth on peripheral nerves and central nervous system of fowl, causing paralysis. Spread by dander on feather follicles, it can be excreted in saliva and can enter respiratory system.
Newcastle's Disease Virus	A viral infection in poultry transmitted by inhalation of infectious aerosols which can affect humans.
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.
Pseudomonas cepacia	Gram negative bacteria identified as a cause of hospital acquired (nosocomial) infections. Causes septicemia, meningitis, endocarditis, pneumonia, eye wound and urinary tract infections, especially with the chronically ill.
Pseudorabies Virus	A extremely contagious herpes virus causing rapid death in animals. Also known as Aujeszky's Disease
Salmonella typhi	Gram negative (rod shaped) bacteria directly spread by anal/oral route of infection; indirectly (including food, hands, flies) spread by contaminated food and inanimate objects. Causative agent for typhoid fever.
Salmonella choleraesuis	Gram negative bacteria associated with acute gastroenteritis and septicemia. Required for Hospital Disinfectants.
Shigella sonnei	Gram negative bacteria causing Shigellosis (bacillary dysentery). Highly infectious food borne illness spread primarily by oral-fecal route. Unsanitary food handling and contaminated water are most common causes of contaminated food.
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.
Trichophyton mentagrophytes	Athlete's foot fungus. Found in shower and dressing rooms.
Vaccinia	Lipophilic (enveloped) DNA poxvirus; causes poxvirus infections.
Yersinia enterocolitica	Small gram negative coccobacilli. A zoonotic agent, infections can be passed from animals to humans. A potent food pathogen. Infections can cause abdominal pain, diarrhea, and fever.

<sup>1</sup> Microbiology, D. Kingsbury and G. Wagner Harwal Publishing 1990