PROGREEN DEZ-8 CONCENTRATE

U.S. EPA Reg. No. 47371-42-86541 **Disinfectant/Cleaner and Sanitizer**

09/7/2020

DESCRIPTION

PROGRREN DEZ-8 is a highly concentrated, one-step, hard surface disinfectant/cleaner and sanitizer. When used as directed peak biocidal performance is attained. This product will deliver effective biocidal action against bacteria, fungi, and viruses.

APPLICATIONS

FARMING & STOCK-BREEDING

- Animal Care / Poultry Facilities
- Fish Farms & Facilities
- Livestock Production Premises

FEDERAL INSTITUTIONS

- Armed Forces
- Correctional Facilities
- Emergency Services
- Mobile Decontamination Centers

FOOD INDUSTRY

- Meat Processing Plants
- Food Preparation Areas
- Poultry and Dairy Facilities
- Kitchens, Cafeterias, Delis
- Food Cases, Trays, Containers
- Restaurant Industry

MUNICIPAL SERVICES

- Collecting Systems
- Drainage Systems
- Public Convenience
- Sewage Systems

HEALTHCARE

- Hospitals
- Home Healthcare
- Field Hospitals
- Nursing Homes

EDUCATIONAL INSTITUTIONS

- Schools
- Swimming Pools
- Sport Facilities
- Locker Rooms

PROGREEN DEZ-8 is a one-step disinfecting and cleaning for a variety of surfaces.
This disinfectant cleaner meets the OSHA Blood borne Pathogen standard and is proven to be effective at killing the highly infectious hepatitis B virus (HBV). It's ideal for use on practically all items including environmental surfaces in areas such as nursing stations, pharmacies, ambulances, emergency rooms, operating rooms, laundry rooms, laboratories, veterinary clinics, classrooms, cafeterias and more.
It is formulated to disinfect hard, non-porous surfaces such as:

- Floors
- Walls
- Metal surfaces
- Stainless steel surfaces
- Plastic surfaces
- Cabinets
- Bathtubs
- Shower stalls
- Bathrooms
- Glazed ceramic surfaces
- Porcelain
- Rubber
- Medical equipment: endoscopes, dental / surgical instruments and utensils

When applied as directed, effective against:

- S.aureus (+MRSA)
- HIV-1 (AIDS)
- S. choleraesuis
- Poliovirus Type 1
- P. aeruginosa
- VRE
- E. coli
- VRSA
- Canine Parvovirus
- TB

ACTIVE INGRIDIENTS

Didecyl Dimethyl Ammonium Chloride (C_{14} 50%, C_{12} 40%, C_{16} 10%)	48%
Dimethyl Benzyl Ammonium Chloride	32%

INERT INGRIDIENTS

Water, Isopropyl alcohol & Functional Additives	20%

PHYSICAL PROPERTIES

pH of Concentrate	6.0-8.0	Flash Point(PMCC)	104^{0}F
Specific Gravity@25^{0}C	0.91	% Quaternery	80-82
Wt. per gallon@25^{0}C	7.58	Freezing Point, ^{0}F	<-29

ANTIMICROBIAL EFFECTIVENESS TEST ANALYSIS REPORT

1:2000 DILUTION

Organism	ATCC#	INOCULUM/G	COLONY FORMING UNITS RECOVERED FROM EACH GRAM OF PRODUCT AFTER 10SEC	20SEC	1MIN	2MIN	5MIN	10 MIN	30MIN	1HR
E. COLI	8739	1.1×10^6	<10	<10	<10	<10	<10	<10	<10	<10
S. AUREUS	6538	1.05×10^6	<10	<10	<10	<10	<10	<10	<10	<10
ENT. CLOACAE	13047	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
KL. PNEUMONIAE	13883	1.05×10^6	<10	<10	<10	<10	<10	<10	<10	<10
PS. AERUGINOSA	9027	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
B. CEPACIA	25416	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
PS.FLUORESCENES	13525	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
PS. PUTIDA	49128	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
C. ALBICANS	10231	1.0×10^5	<10	<10	<10	<10	<10	<10	<10	<10
VEGETATIVE A. NIGER	16404	$1,0 \times 10^5$	<10	<10	<10	<10	<10	<10	<10	<10

(ATCC = AMERICAN TYPE CULTURE COLLECTION;
<10 IS THE STATISTICAL EXPRESSION OF NO MICROBIAL RECOVERY FOR THE PLATE COUNT TEST METHOD)

ANTIMICROBIAL EFFECTIVENESS TEST ANALYSIS REPORT

1:5000 DILUTION

Organism	ATCC#	INOCULUM/G	COLONY FORMING UNITS RECOVERED FROM EACH GRAM OF PRODUCT AFTER 10SEC	20SEC	1MIN	2MIN	5MIN	10 MIN	30MIN	1HR
E. COLI	8739	1.1×10^6	60	<10	<10	<10	<10	<10	<10	<10
S. AUREUS	6538	1.05×10^6	<10	<10	<10	<10	<10	<10	<10	<10
ENT. CLOACAE	13047	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
KL. PNEUMONIAE	13883	1.05×10^6	120	<10	<10	<10	<10	<10	<10	<10
PS. AERUGINOSA	9027	1.0×10^6	620	100	<10	<10	<10	<10	<10	<10
B. CEPACIA	25416	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
PS.FLUORESCENES	13525	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
PS. PUTIDA	49128	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
C. ALBICANS	10231	1.0×10^5	<10	<10	<10	<10	<10	<10	<10	<10
VEGETATIVE A. NIGER	16404	$1,0 \times 10^5$	<10	<10	<10	<10	<10	<10	<10	<10

(ATCC = AMERICAN TYPE CULTURE COLLECTION;
<10 IS THE STATISTICAL EXPRESSION OF NO MICROBIAL RECOVERY FOR THE PLATE COUNT TEST METHOD)

ANTIMICROBIAL EFFECTIVENESS TEST ANALYSIS REPORT

1:10,000 DILUTION

Organism	ATCC#	INOCULUM/G	COLONY FORMING UNITS RECOVERED FROM EACH GRAM OF PRODUCT AFTER 10SEC	20SEC	1MIN	2MIN	5MIN	10 MIN	30MIN	1HR
E. COLI	8739	1.1×10^6	<10	<10	<10	<10	<10	<10	<10	<10
S. AUREUS	6538	1.05×10^6	200	<10	<10	<10	<10	<10	<10	<10
ENT. CLOACAE	13047	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
KL. PNEUMONIAE	13883	1.05×10^6	<10	<10	<10	<10	<10	<10	<10	<10
PS. AERUGINOSA	9027	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
B. CEPACIA	25416	1.0×10^6	1840	150	<10	<10	<10	<10	<10	<10
PS.FLUORESCENES	13525	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
PS. PUTIDA	49128	1.0×10^6	<10	<10	<10	<10	<10	<10	<10	<10
C. ALBICANS	10231	1.0×10^5	<10	<10	<10	<10	<10	<10	<10	<10
VEGETATIVE A. NIGER	16404	$1,0 \times 10^5$	<10	<10	<10	<10	<10	<10	<10	<10

(ATCC = AMERICAN TYPE CULTURE COLLECTION;
<10 IS THE STATISTICAL EXPRESSION OF NO MICROBIAL RECOVERY FOR THE PLATE COUNT TEST METHOD)

Summary of Antimicrobial Test Results

PROGREEN DEZ-8 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.

Claim:	Contact Time:	Dilution:	Organic Soil:	Water Conditions:
Disinfectant	10 seconds to 15 min	1:2000 to 1:10000	5%	Deionized
Test Method:	Official Method of the AOAC, 14 Edition Use-Dilution Method			

Organism	ATCC#	Replicates	Results
Brevibacterium ammoniagenes	6871	20	0/20
Campylobacter jejuni	29428	10,10	0/10, 0/10
Citrus Canker	USDA 46190	10, 10	0/10, 0/10
Escherichia coli	11229	20	0/20
Escherichia coli(1)	35150	10, 10	0/10, 0/10
Klebsiella pneumoniae	4352	20	0/20
Listeria monocytogenes	19115	10, 10	0/10, 0/10
Pseudomonas aeruginosa	15442	60, 60, 60, 40	0/60, 0/60, 0/60, 0/40
Pseudomonas cepacia	17765	10, 10, 10	0/10, 0/10, 0/10
Pseudomonas cepacia	25416	10, 10, 10	0/10, 0/10, 0/10
Pseudomonas cepacia	25608	10, 10, 10	0/10, 0/10, 0/10
Salmonella enterica	10708	30, 30, 30, 30	0/30, 0/30, 0/30, 0/30
Salmonella typhi	6539	20	0/20
Staphylococcus aureus	6538	60, 60, 60, 40	0/60, 0/60, 0/60, 0/40
Mycobacterium tuberculosis avium	25291	60, 60, 60, 40	0/60, 0/60, 0/60, 0/40
Mycobacterium tuberculosis	35822	60, 60, 60, 40	0/60, 0/60, 0/60, 0/40

Conclusion: All lots of PROGREEN DEZ-8 effectively killed the above listed bacteria as specified in the test performance standards. PROGREEN DEZ-8 meets EPA requirements for hard surface disinfectant claims in hospital and medical environments when diluted as directed.

Claim:	Contact Time:	Dilution:	Organic Soil:	Water Conditions:
Fungicide	10 seconds to 15 min	1:2000 to 1:10000	5%	Deionized
Test Method:	Official Method of Analysis of the AOAC Fungicidal Test.			

Organism	ATCC#	Replicates	Results:
Trichophyton mentagrophytes	9533	4	99.99%
Aspergillus niger	6275	20	99.99%

Conclusion: All lots of PROGREEN DEZ-8 effectively killed Trichophyton mentagrophytes and Aspergillus niger as specified in the test performance standards. PROGREEN DEZ-8 is an effective fungicide for nonporous inanimate hard surfaces when diluted 1:2000 to 1:10000 in the presence of 5% organic soil.

Claim:	Dilution	Organic Soil:	Water Conditions:
Virucide	1:2000 to 1:10000	5%	Deionized
Test Method:	EPA Guidelines		

Organism	Source of Virus or ATCC#	Host System; Cytopathic Effect	Contact Time	Replicates	Results Log 10 Reduction
Adenovirus Type 5	ATCC VR-5	HeLa Diagnostic	10 sec to 15 min	3	>4.0
Adenovirus Type 7	VR-7	Hi Hela Atcc-CRL 1958	10 sec to 15 min	3	>4.0
Avian Infectious Laryngotracheitis Virus	Avian Infectious Laryngotracheitis Virus	Embryonic Chicken eggs, BE eggs	10 sec to 15 min	3	≥4.0
Avian Influenza	Turkey/WIS SPAFAS LAB	Embroyonated Chicken Eggs	10 sec to 15 min	4	99.99%
Canine Calicivirus	ASTM E1053-97 Feline Calicivirus (FCV)	CrFK American Bioresearch labs	10 sec to 15 min	2	>4.0
Hepititus A,B,C Virus	Hepadnavirus Testing	Hepatitis (w/ 5% serum)	10 sec to 15 min	4	>4
Herpes Simplex Type 1	HSV-1 Sabin	Human Epithelioma #2 cells; lytic cytopathic effect	10 sec to 15 min	8	>3.0
Herpes Simplex Type 2	HSV-2 Sabin	Human Epithelioma #2cells; lytic cytopathic effect	10 sec to 15 min	8	>3.0
Infectious Bronchitis (Arkansas 99)	Arkansas 99	Embroyonated Chicken Eggs	10 sec to 15 min	4	99.99%
Infectious Bronchitis Virus (Avian IBV)	Avian infectious Laryngotrachetis virus	Embryonic Chicken egg	10 sec to 15 min	3	>4.0
Influenza A2/ Hong Kong	ATCC 68-H3N2	MDCK cells; lytic cytopathic effect	10 sec to 15 min	4	>4.5
Marek's Disease	SB-1	Primary chick embroyo fibroblasts (PCF)	10 sec to 15 min	4	99.99%
Newcastle's Disease	VR 108	Fetal bovine serum	10 sec to 15 min	4	>3.0
Norwalk Virus	ASTM E1053-97 Feline Calicivirus (FCV)	CrFK American Bioresearch labs	10 sec to 15 min	2	>4.0
Pseudorabies Virus	VR-135	MDBK Cells	10 sec to 15 min	2	99.99%
SARS	SARS Associated Coronavirus Strain 200300592	Vero E6 Cells	10 sec to 15 min	3	>3.0
Vaccinia	Wyeth strain	H.Ep. #2 cells fed with EMEM95CS5; Cytopathic Effects	10 sec to 15 min	8	>3.0

Conclusion: All lots of PROGREEN DEZ-8 effectively inactivated the above listed viruses as specified in the test performance standards. PROGREEN DEZ-8 meets EPA requirements for hard surface virucidal claims in hospital and medical environments.

Claim:	Contact Time:	Dilution:	Organic Soil:	Water Conditions:
Sanitizer Food Surfaces	10 sec to 15 min	1:2000 to 1:10000	Pre-clean	Varies in $CaCO_3$ ppm
Test Method: Sanitizer: AOAC Germicidal and Detergent Sanitizer, For Inanimate Food Contact Surfaces				

Organism	ATCC#	Water Conditions	Replicates	Results % Reduction
Escherichia coli	11229	400 ppm	4	>99.999
Staphylococcus aureus	6538	400 ppm	4	>99.999
Campylobacter jejuni	29428	500 ppm	4	>99.999
Escherichia coli	11229	500 ppm	4	>99.999
Escherichia[1] coli	35150	500 ppm	4	>99.999
Klebsiella Pneumoniae	4352	500 ppm	10	>99.999
Listeria monocytogenes	19115	500 ppm	4	>99.999
Salmonella choleraesuis	10708	500 ppm	4	>99.999
Shigella sonneii	11060	500 ppm	4	>99.999
Staphylococcus aureus	6538	500 ppm	4	>99.999
Vibrio Cholerae	14035	500 ppm	4	>99.999
Yersinia enterocolitica	9610	500 ppm	4	>99.999
Escherichia coli	11229	1000 ppm	10	>99.999
Staphylococcus aureus	6538	1000 ppm	10	>99.999

[1] Escherichia coli 0157: H7 - Pathogenic

Conclusion: All lots of PROGREEN DEZ-8 effectively killed the above listed bacteria as specified in the test performance standards with greater than 99.999% reduction within one minute. PROGREEN DEZ-8 is an effective Food Contact Sanitizer against the above listed bacteria on hard non-porous surfaces when diluted as indicated in synthetic hard water.

Claim:	Contact Time:	Organic Soil:	Water Conditions:
Disinfectant	10sec to15min	5%	1100 in $CaCO_3$ ppm
Test Method: Sanitizer: AOAC Germicidal and Detergent Sanitizer, For Food Contact Surfaces			

Organism	ATCC#	Dilution	Replicates	Results % Reduction
Klebsiella pneumoniae	4352	1:10000	10	>99.999
Staphylococcus aureus	6538	1:10000	10	>99.999

Conclusion: PROGREEN DEZ-8 effectively killed the above listed bacteria as specified in the test performance standards with greater than 99.999% reduction within one minute. PROGREEN DEZ-8 is effective as a Disinfectant against the above listed bacteria on hard, non-porous surfaces when diluted as indicated.

Summary of Antimicrobial Efficacy - Etiology[2]

Pathogenic Microorganism	Description
Adenovirus Type 5	Lipophilic (enveloped) DNA virus, (one of several) causative agent for colds and other respiratory ailments
Adenovirus Type 7	Human adenoviruses are known to cause a variety of illnesses, including cystitis, diarrhea, intussusception, meningoencephalitis, epidemic kerato conjunctivitis, and encephalitis
Avian Influenza Virus	A highly contagious virus which can cause up to 100% morality 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, diaharrea, 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.
Feline Calicivirus	Feline Calicivirus is the approved surrogate for the Norwalk Virus. Norwalk virus is the prototype of a family of unclassified small round structured viruses (SRSVs) which may be related to the caliciviruses.
Hepititus A,B,C Virus	Lipophilic (enveloped) DNA virus of the Hepadnaviridae family.
Herpes Simples Type 1 & 2	Lipophilic (enveloped) DNA virus, may result in oral mucocutaneous lesions. Associated with most orofacial herpes and HSV encephalitis.
Infectious Bronchitis Virus - Arkansas99	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 rowth 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.

[2] Microbiology, D. Kingsbury and G. Wagner

Newcastle's Disease Virus	A viral infection in poultry transmitted by inhalation of infectious aerosols which can affect humans.
Norwalk virus	Norwalk virus is the prototype of a family of unclassified small round struc tured viruses (SRSVs) which may be related to the caliciviruses.
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	An 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 Caustive agent for typhoid fever.
Salmonella choleraesuis	Gram negative bacteria associated with acute gastroenteritis and septicemia. Required for Hospital Disinfectants.
SARS	Severe acute respiratory syndrome (SARS) is a viral respiratory illness caused by a coronavirus, called SARS-associated coronavirus (SARS-CoV). The main way that SARS seems to spread is by close person-to-person contact. The virus that causes SARS is thought to be transmitted most readily by respiratory droplets (droplet spread) produced when an infected person coughs or sneezes.
Shigella sonneii	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 enterotozins which cause food poisoning after ingestion. Causes wound infections, septicemia, endocarditis, meningitis, osteomylitis and pneumonia. Required for Hospital Disinfectants.
Trichophyton mentagrophytes	Athlete's foot fungus. Found in shower and dressing rooms.
Vaccina	Lipophilic (enveloped) DNA poxvirus; causes poxvirus infections.
Vibrio cholerae	Gram negative, rod shape bacteria; causative agent for chlerae - causes severe diarrhea - often fatal.
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.