

MARK E II™

Disinfectant, Cleaner, Mildewstat, Non-Food Contact Sanitizer,
Virucide*, and Deodorizer

ONE PACKS
Dispenser-Free Control Systems®

EPA Reg. No. 10324-108-3640
EPA Est. No. 3640-WI-1

EFFICACY SUMMARY



ST-No.	New Item #	Case UPC No. Mfg. No.	Each UPC No. Mfg. No.	Case Size	Case Weight	Cases /Pallet	Dilution Rate
		071206	071206				
ST-756	#2309012	009012	009012	144 x 1 fl. oz. packs	11.25 pounds	75	2 Gallons
ST-757	#2309029	009029	009029	72 x 2 fl. oz. packs	11 pounds	75	4 Gallons
ST-758	#2309036	009036	009036	36 x 4 fl. oz. packs	10.75 pounds	75	8 Gallons
ST-760	#2308886	008886	008886	54 x 2.5 fl. oz. packs	10.25 pounds	75	5 Gallons
ST-2145	#2109525	000804	002112	4 x 1 gallon case	36 pounds	48	Varies
ST-2146	#1021465	021465	021465	55 gallons	535 pounds	4V	aries
ST-9935	#2909135	009135	009135	12 x 32 fl. oz. empty silk-screened bottles	3.5 pounds	40	N/A
ST-9957	#2999570	099570	099570	12 x 16 oz. empty spray bottle	3.25 pounds	40	N/A

Hospital Disinfection

Contact Time: 10 minutes

Water Conditions: 400 ppm CaCO₃

Organic Soil: 5%

Test Method Official Method of the AOAC, Use-Dilution Method (UDM)

Dilution/Concentration: ½ oz. / gal. (850)

Organism	Carrier Population (Log ₁₀)	# Positive Carriers
Pseudomonas aeruginosa ATCC 15442	6.16	3/60
	6.96	4/60
	6.85	1/60
Staphylococcus aureus ATCC 6538	6.69	1/60
	6.45	1/60
	6.39	0/60
Organism	Carrier Population (Log ₁₀)	# Positive Carriers
Acinetobacter baumannii ATCC 19606	4.72	0/10
		0/10
Acinetobacter calcoaceticus ATCC 51432	5.95	0/10
		0/10
Burkholderia cepacia ATCC 25416	4.63	0/10
		0/10
Campylobacter jejuni ATCC 29428	4.45	0/10
		0/10
Chlamydia psittaci ² ATCC VR-125	5.80	≥4.3
		≥4.3
Corynebacterium ammoniagenes ATCC 6871	4.98	0/10
		0/10
Enterobacter aerogenes ATCC 13048	5.58	0/10
		0/10
Enterobacter cloacae ATCC 13047	4.88	0/10
		0/10
Enterobacter faecalis ATCC 19433	5.61	0/10
		0/10
Enterobacter faecalis GRE ATCC 49532	5.44	0/10
		0/10
Enterobacter faecalis VRE GBL-NC 171	5.62	0/10
		0/10
Enterobacter faecium VRE GBL-NC 51	5.20	0/10
		0/10
Escherichia coli ATCC 8739	4.83	0/10
		0/10
Escherichia coli O157:H7 ATCC 35150	6.04	0/10
		0/10
Klebsiella pneumonia ATCC 13883	4.56	0/10
		0/10

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Organism	Carrier Population (Log ₁₀)	# Positive Carriers
<i>Klebsiella pneumoniae</i> MDR GBL-NC 131	5.48	0/10 0/10
<i>Listeria monocytogenes</i> ATCC 984	4.18	0/10 0/10
<i>Proteus vulgaris</i> ATCC 33420	4.30	0/10 0/10
<i>Salmonella schottmuelleri</i> ATCC 8759	5.64	0/10 0/10
<i>Salmonella typhi</i> ATCC 6539	4.62	0/10 0/10
<i>Salmonella typhimurium</i> ATCC 14028	6.15	0/10 0/10
<i>Serratia marcescens</i> GBL-NC 135	4.76	0/10 0/10
<i>Shigella dysenteriae</i> ATCC 9361	4.58	0/10 0/10
<i>Shigella flexneri</i> ATCC 12022	4.34	0/10 0/10
<i>Shigella sonnei</i> ATCC 9290	4.32	0/10 0/10
<i>Staphylococcus aureus</i> MDR GBL-NC 56	5.00	0/10 0/10
<i>Staphylococcus aureus</i> CA-MRSA Genotype USA400	4.97	0/10 0/10
<i>Staphylococcus aureus</i> CA-MRSA ATCC 33591	5.00	0/10 0/10
<i>Staphylococcus epidermidis</i> ATCC 14990	5.26	0/10 0/10
<i>Streptococcus pyogenes</i> ATCC 19615	4.68	0/10 0/10

Conclusion: All lots of Mark E II satisfied the established test protocol criteria for disinfection. Mark E II meets EPA standards (OCSP 810.2200) for hard surface disinfectant claims that can be used by products sold in hospitals, households, healthcare facilities, schools, restaurants, food services, dairies, farm, beverage and food processing plants and other medical facilities when used (diluted) as directed. Mark E II has been recognized by the EPA for effectiveness against the following antibiotic resistant strains of *Staphylococcus* and *Enterococcus*. As a result Mark E II can be found on the EPA list of effective disinfectants: List H

Virucide

Contact Time: 10 minutes

Water Conditions: 400 ppm CaCO₃

Organic Soil: 5%

Test Method Virucidal Efficacy of a Disinfectant for Use on Inanimate Environmental Surfaces

Dilution/Concentration: ½ oz. / gal. (850 ppm)

Organism	Virus Population (Log ₁₀)	Log Reduction (Log ₁₀)
Avian Influenza A Virus (H5N1) CDC 2006719965	4.50	≥ 4.0 ≥ 4.0
Hantavirus (PHV)	5.00	≥ 3.5 ≥ 3.5
Hepatitis B Virus (HBV) (Duck-surrogate)	4.68	≥ 4.68 ≥ 4.68
Hepatitis C Virus (HCV) (BVDV-surrogate)	6.40	≥ 6.4 ≥ 6.4
Herpes Simplex Type 1 Virus VR-260	4.50	≥ 3.0 ≥ 3.0
Herpes Simplex Type 2 Virus ATCC VR-734	5.70	≥ 4.2 ≥ 4.2
Human Coronavirus VR-740	5.50	≥ 5.0 ≥ 4.0
Human Immunodeficiency Virus Type 1 (AIDS Virus) (Strain III _{RF})	5.00	≥ 3.5 ≥ 3.5
Influenza A Virus (H1N1) VR-1469	4.50	≥ 4.0 ≥ 4.0
Vaccinia Virus (Smallpox Vaccine Virus) VR-325	5.00	≥ 3.5 ≥ 3.5
Human Immunodeficiency Virus Type 1 (AIDS Virus) (Strain III _{RF})	5.25	≥ 3.75 ≥ 3.75
Influenza A Virus (H1N1) ATCC VR-1469	5.50	≥ 5.0 ≥ 5.0
Vaccinia Virus ATCC VR-119	6.72	≥ 6.25 ≥ 6.25

Conclusion: All lots of Mark E II satisfied the established test protocol criteria for virucide. Mark E II meets EPA standards (OCSP 810.2200) for hard surface virucidal claims that can be used by products sold in hospitals, households, healthcare facilities, schools, restaurants, food services, dairies, farm, beverage and food processing plants and other medical facilities when used (diluted) as directed. Complete inactivation of the virus by 2 separate lots, 1 surface each, is required for each claim. If cytotoxicity is present, a 3-log₁₀ reduction must be demonstrated. Mark E II has been recognized by the EPA for effectiveness against the following viruses HIV, Hepatitis C, and Avian influenza. As a result Mark E II can be found on several EPA lists of effective virucides: EPA Lists: C, D, F, and M. Mark E II satisfies the OSHA Blood Borne pathogen directive for neutralizing blood spills.

Virucide Animal Premises

Contact Time: 10 minutes

Water Conditions: 400 ppm CaCO₃

Organic Soil: 5%

Test Method Virucidal Efficacy of a Disinfectant for Use on Inanimate Environmental Surfaces

Dilution/Concentration: ½ oz. / gal. (850 ppm)

Organism	Virus Population (Log ₁₀)	Log Reduction (Log ₁₀)
Avian Influenza A Virus (H5N1) CDC 2006719965	4.50	≥4.0
		≥4.0
Hantavirus PHV	5.00	≥3.5
		≥3.5
Canine Coronavirus ATCC VR-809	4.50	≥4.0
		≥4.0
Canine Distemper Virus ATCC VR-128	4.50	≥4.0
		≥4.0
¹ Equine Herpes Virus Type 1 ATCC VR-2229	4.75	≥4.25
		≥4.25
Infectious Bovine Rhinotracheitis Virus ATCC VR-188	5.20	≥3.7
		≥3.7
Newcastle disease Virus ATCC VR-109	5.80	≥4.8
		≥4.3
² Porcine Rotavirus ATCC VR-893	4.50	≥3.0
		≥3.0
Pseudorabies Virus ATCC VR-135	4.70	≥3.2
		≥3.2

Conclusion: All lots of Mark E II satisfied the established test criteria for a virucide. Mark E II meets EPA standards (OCSPP 810.2200) for hard surface virucidal claims that can be used by products sold in kennels, households, veterinarian facilities, schools, dairies, farms, zoos and other facilities that housed animals when used (diluted) as directed. Complete inactivation of the virus by 2 separate lots, 1 surface each, is required for each claim. If cytotoxicity is present, a 3-log₁₀ reduction must be demonstrated.

Mildewstatic

Contact Time: 10 minutes

Water Conditions: 400 ppm CaCO₃

Organic Soil: 5%

Test Method EPA Hard Surface Mildew Fungistatic Test

Dilution/Concentration: ½ oz. / gal. (660 ppm)

Organism	Tile	Untreated (% Covered)	7 Days Post Treatment (% Covered)
Aspergillus niger ATCC 6275	1	80	0/0
	2	100	0/0
	3	80	0/0
	4	80	0/0
	5	80	0/0
	6	80	0/0
	7	80	0/0
	8	100	0/0
	9	100	0/0
	10	80	0/0

MILDEWSTATIC PERFORMANCE: Mark E II controls mildew and non-pathogenic fungal growth on indoor, hard, non-porous surfaces when applied at ½ oz. per gal of water (850 ppm active). Thoroughly wet all treated surfaces completely. Let air-dry. Repeat application weekly or when growth or odor reappears.

Sanitizer

Contact Time: 3 minutes

Water Conditions: 400 ppm CaCO₃

Organic Soil: 5%

Test Method Sanitizer: AOAC Germicidal and Detergent Sanitizer

Dilution/Concentration: ½ oz. / gal. (850 ppm)

Organism	Average Population (Log ₁₀)	Log Reduction (Log ₁₀)
Klebsiella pneumonia ATCC 4352	5.80	≥5.80
		≥5.80
		≥5.80
Staphylococcus aureus ATCC 6538	7.11	≥7.11
		≥7.11
		≥7.11

Conclusion: All lots of Mark E II satisfied the established test protocol criteria for a sanitizer. Mark E II meets EPA standards (Subdivision G, 91-2) for hard surface sanitizer claims that can be used by products sold in households, schools, offices, retail stores, other public places when used (diluted) as directed.

DISINFECTANT

Mark E II One-Step Disinfectant, Germicidal Detergent and Deodorant is a phosphate-free formulation designed to provide effective cleaning, deodorizing and disinfection in areas where housekeeping is of prime importance in controlling the hazard of cross-contamination on treated surfaces.

This product is for use on hard, non-porous surfaces in:

- Hospitals, nursing homes, medical and dental offices and clinics, operating rooms.
- Institutional facilities, laboratories, factories, businesses, office buildings, restrooms, hotels, motels and transportation terminals.
- Institutions, schools and colleges, churches, classrooms, athletic facilities and locker rooms.
- Food processing plants.
- Veterinary clinics, animal life science laboratories, kennels, breeding establishments and grooming establishments, pet animal quarters, zoos.

This product is a one-step germicidal disinfectant cleaner and deodorant designed for general cleaning, disinfecting, deodorizing and controlling mold and mildew on hard, non-porous surfaces.

This product is for use as a disinfectant on hard, non-porous surfaces at (850 ppm active). Kills 99.9% of: any disinfection organism listed on hard, non-porous surfaces.

This product cleans, disinfects and deodorizes surfaces by killing odor causing microorganisms and mold and mildew. Its non-abrasive formula is designed for use on hard, nonporous surfaces: glazed ceramic, glazed porcelain, chrome, stainless steel and plastic, floors, walls, fixtures, toilets, urinals, sinks, shower rooms, and locker rooms.

This product when used as directed is formulated to disinfect on washable hard, non-porous surfaces such as:

- Countertops, sinks, tub surfaces, refrigerators, microwave ovens, appliances, stovetops, shelves, racks and carts.
- Whirlpools, whirlpool bathtubs.
- Tables, chairs, desks, washable walls, cabinets, floors, doorknobs and garbage cans.
- Shower stalls, shower doors and curtains, bathtubs and glazed tiles, and restroom fixtures.
- Playground equipment.
- Telephones and telephone booths.
- Hair clippers, cutting implements, plastic rollers, washable nail files.

Kills Pandemic 2009 H1N1 Influenza A Virus, (formerly called swine flu).

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Before using this product in federally inspected meat and poultry food processing plants and dairies, food products and packaging materials must be removed from the room or carefully protected.

This product is not for use on medical device surfaces.

FOR USE AS A DISINFECTANT, VIRUCIDE*, CLEANER:

1. Pre-clean heavily soiled areas.
2. Apply use solution of 2 oz. of this product per 4 gallons of water (or equivalent use dilution) to disinfect hard, non-porous surfaces with a sponge, brush, cloth, mop, by immersion, auto scrubber, mechanical spray device, coarse pump or trigger spray device. For spray applications, spray 6-8 inches from surface. Do not breathe spray.
3. Treated surfaces must remain wet for 10 minutes.
4. Allow to air dry.
5. Prepare a fresh solution daily or when visibly dirty.

Chemical Characteristics

Appearance	Clear Red Liquid
Biodegradable	Yes
California Compliant	Yes
Corrosive Category (Concentrate).....	Yes
Corrosive Category (Use Dilution)	No
DEA-Free	Yes
Fragrance	Fresh Herbal
Non-Acid	Yes
Non-Butyl	Yes
Non-Flammable	Yes
NPE-Free	Yes
pH (Concentrate).....	8.0-8.5
pH (Use Dilution 1:64).....	7.0-8.5
Phosphate-Free	Yes
VOC	None

Active Ingredients

Alkyl (50% C14, 40% C12, 10% C16)

Dimethyl Benzyl Ammonium Chloride..... 8.68%

Octyl Decyl Dimethyl Ammonium Chloride..... 6.51%

Didecyl Dimethyl Ammonium Chloride..... 3.26%

Dioctyl Dimethyl Ammonium Chloride 3.26%

INERT INGREDIENTS:..... 78.29%

TOTAL:..... 100.00%



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