

Steramine®

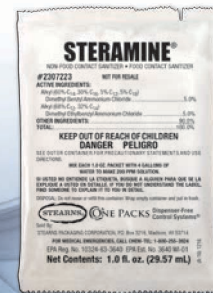
Food Contact Sanitizer, Non-Food Contact Sanitizer

ONE PACKS
Dispenser-Free Control Systems®

EPA Reg. No. 10324-63-3640

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-767	#2376700	076700		N/A		100 x 0.75 fl. oz. packs	5.5 pounds	100	3 Gallons
ST-722	#2307223	007223		N/A		144 x 1 fl. oz. packs	12 pounds	75	4 Gallons
ST-723	#2307230	007230		N/A		72 x 2 fl. oz. packs	11 pounds	75	8 Gallons
ST-718	#2307186	007186		N/A		36 x 4 fl. oz. packs	11 pounds	75	16 Gallons
ST-1266	#2109470	009470		003331		4 x 1 gallon case	36 pounds	48	N/A
ST-9959	#2999594	099594		N/A		12 x 32 fl. oz. empty silk-screened bottles	3 pounds	40	N/A
ST-9961	#2999617	099617		N/A		1 x 5 qt. Sanitizer Bucket	1.5 pounds	48	N/A
ST-9956	#2999563	099563		N/A		1 x 64 oz. Stock Solution Bottle	0.75 pounds	100	N/A

General Disinfection Conclusion: All lots of Steramine satisfied the established test criteria for general disinfection. Steramine meets EPA standards (Subdivision G, 91-2) for hard surface general disinfectant claims that can be used by products sold in households, schools, restaurants, food services, dairies, farm, beverage and food processing plants and other non-medical facilities when used (diluted) as directed.

Contact Time: 10 minutes

Water Conditions: Deionized

Organic Soil: 5%

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

Dilution/Concentration: 3 oz. /5 gal. (469 ppm)

Organism	Carrier Population (Log ₁₀)	# Positive Carriers
Salmonella enterica ATCC 10708	4.75	0/60
	4.73	1/60
	4.60	1/60
Staphylococcus aureus ATCC 6538	6.20	1/60
	6.15	0/60
	6.15	1/60
Campylobacter jejuni ATCC 29428	4.70	0/10
		0/10
Escherichia coli O157:H7 ATCC 35150	5.15	0/20
		0/20
Listeria monocytogenes ATCC 984	4.38	0/10
		0/10
Proteus mirabilis GBL-104	5.04	0/20
		0/20
Staphylococcus aureus MRSA ATCC 33591	5.62	0/10
		0/10
Yersinia enterocolitica ATCC 23715	4.66	0/20
		0/20

Hospital Disinfection Conclusion: All lots of Steramine satisfied the established test criteria for disinfection. Steramine meets EPA standards (Subdivision G, 91-2) 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 non-medical facilities when used (diluted) as directed. Steramine has been recognized by the EPA for effectiveness against the following antibiotic resistant strains of Staphylococcus and Enterococcus. As a result Steramine can be found on the EPA list of effective disinfectants: List H

Contact Time: 10 minutes

Water Conditions: Deionized

Organic Soil: 5%

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

Dilution/Concentration: 4 oz. /5 gal. (625 ppm)

Organism	Carrier Population (Log ₁₀)	# Positive Carriers
Pseudomonas aeruginosa ATCC 15442	7.20	1/60
	6.00	0/60
	6.95	0/60
Salmonella enterica ATCC 10708	4.75	0/60
	4.73	1/60
	4.60	1/60
Staphylococcus aureus ATCC 6538	6.20	1/60
	6.15	0/60
	6.15	1/60
Organism	Carrier Population (Log ₁₀)	# Positive Carriers
Botrytis cinerea ATCC 12481	4.48	0/10
		0/10
Burkholderia cepacia ATCC 25416	4.54	0/10
		0/10

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Organism	Carrier Population (Log ₁₀)	# Positive Carriers
Campylobacter jejuni ATCC 29428	4.70	0/10 0/10
Corynebacterium ammoniagenes ATCC 6871	4.78	0/10 0/10
Enterococcus faecium VRE GBL-NC 51	5.00	0/10 0/10
Escherichia coli O157:H7 ATCC 35150	5.15	0/20 0/20
Klebsiella pneumonia ATCC 13883	4.26	0/10 0/10
Listeria monocytogenes ATCC 984	4.38	0/10 0/10
Proteus mirabilis GBL-104	5.04	0/20 0/20
Salmonella typhi ATCC 6539	4.60	0/10 0/10
Shigella sonnei ATCC 9290	4.11	0/10 0/10
Staphylococcus aureus CA-MRSA Genotype USA400	5.16	0/10 0/10
Staphylococcus aureus MRSA ATCC 33591	5.62	0/10 0/10
Yersinia enterocolitica ATCC 23715	4.66	0/20 0/20

Virucide Conclusion: All lots of Steramine satisfied the established test criteria for a virucide. Steramine meets EPA standards (OCSP 810.2200) for hard surface virucide 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 non-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. Human Immunodeficiency Virus (AIDS virus) requires only a two minute contact time. Steramine has been recognized by the EPA for effectiveness against the following viruses: HIV, Hepatitis B, Hepatitis C, and Avian influenza. As a result Steramine can be found on several EPA lists of effective virucides: EPA Lists: C, D, F, H, and M. Steramine satisfies the OSHA Blood Borne pathogen directive for neutralizing blood spills.

Contact Time: 10 minutes **Water Conditions:** Deionized **Organic Soil:** 5%
Test Method Virucidal Efficacy of a Disinfectant for Use on Inanimate Environmental Surfaces **Dilution/Concentration:** 4 oz. /5 gal. (469 ppm)

Organism	Virus Population (Log ₁₀)	Log Reduction (Log ₁₀)
Avian Influenza A Virus (H5N1) CDC 2006719965	4.75	≥4.25 ≥4.25
Hepatitis B Virus (HBV) (Duck-surrogate) Clinical Isolate	5.22 4.59	≥3.84 ≥3.21
Hepatitis C Virus (HCV) (BVDV-surrogate) Clinical Isolate	5.93 6.06	≥5.93 ≥6.06
Herpes Simplex Type 1 Virus VR-260	6.80	≥5.3 ≥5.3
Herpes Simplex Type 2 Virus ATCC VR-734	5.50	≥4.0 ≥4.0
Human Coronavirus VR-740	4.50	≥4.0 ≥4.0
Human Immunodeficiency Virus ¹ Type 1 (AIDS Virus) (Strain III _{RF})	5.50	≥4.0 ≥4.0
Influenza A Virus (H1N1) VR-1469	4.50	≥4.0 ≥4.0
Influenza A ₂ /Japan/305 Virus ATCC VR-100	7.50	≥5.7 ≥5.7
Vaccinia Virus (Smallpox Vaccine Virus) Clinical Isolate	6.80	≥5.0 ≥5.0

Virucide Animal Premises Conclusion: All lots of Steramine satisfied the established test criteria for a virucide. Steramine meets EPA standards (Subdivision G, 91-2) for hard surface virucide claims that can be used by products sold in kennels, households, veterinarian facilities, schools, dairies, farm, 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.

Contact Time: 10 minutes **Water Conditions:** Deionized **Organic Soil:** 5%
Test Method Virucidal Efficacy of a Disinfectant for Use on Inanimate Environmental Surfaces **Dilution/Concentration:** 4 oz. /5 gal. (625 ppm)

Organism	Virus Population (Log ₁₀)	Log Reduction (Log ₁₀)
Avian Influenza A Virus (H5N1) CDC 2006719965	4.75	≥4.25 ≥4.25
Avian Influenza/Turkey/Wisconsin Virus ATCC VR-798	7.50	≥5.7 ≥5.7
Avian Reovirus ATCC VR-2449	6.00	≥5.5 ≥5.5
Bovine Viral Diarrhea Virus ATCC VR-534	4.50	≥4.0 ≥4.0
Canine Coronavirus ATCC VR-809	4.50	≥4.0 ≥4.0
Canine Distemper Virus USDA Strain	4.80	≥3.3 ≥3.3
Equine Arteritis Virus ATCC VR-769	5.75	≥5.25 ≥5.25
Infectious Bovine Rhinotracheitis Virus ATCC VR-188	5.20	≥3.7 ≥3.7

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Organism	Virus Population (Log ₁₀)	Log Reduction (Log ₁₀)
Infectious Bronchitis Virus Beaudette IB42	5.25	≥ 4.75 ≥ 4.75
Infectious Laryngotracheitis Virus LT-IVAX	4.50	≥ 4.0 ≥ 4.0
Newcastle disease Virus ATCC VR-109	6.00	≥ 4.2 ≥ 4.2
Porcine Respiratory & Reproductive Virus USDA Strain	5.50	≥ 4.0 ≥ 4.0
Porcine Rotavirus ATCC VR-893	4.50	≥ 3.0 ≥ 3.0
Pseudorabies Virus ATCC VR-135	4.70	≥ 3.2 ≥ 3.2
Transmissible Gastroenteritis Virus ATCC VR-742	5.70	≥ 3.2 ≥ 3.2

Mildewstatic MILDEWSTATIC PERFORMANCE: Steramine controls mildew and non-pathogenic fungal growth on indoor, hard, non-porous surfaces when applied at 4 oz. per 5 gal of water (625 ppm active). Thoroughly wet all treated surfaces completely. Let air-dry. Repeat application weekly or when growth or odor reappears.

Contact Time: 10 minutes

Water Conditions: Deionized

Organic Soil: 5%

Test Method EPA Hard Surface Mildew Fungistatic Test

Dilution/Concentration: 4 oz. /5 gal. (625 ppm)

Organism	Tile	Untreated (% Covered)	7 Days Post Treatment (% Covered)
Aspergillus niger ATCC 6275	1	100	0/0
	2	80	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

Sanitizer Conclusion: All lots of Steramine satisfied the established test protocol criteria for sanitizer. Steramine 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.

Contact Time: 3 minutes

Water Conditions: Deionized

Organic Soil: 5%

Test Method Sanitizer: AOAC Germicidal and Detergent Sanitizer

Dilution/Concentration: 0.25 oz. / gal. (150 ppm)

Organism	Average Population (Log ₁₀)	Log Reduction (Log ₁₀)
Enterobacter aerogenes ATCC 13048	5.43	≥ 4.03
	7.06	≥ 3.92
	5.43	3.09
Staphylococcus aureus ATCC 6538	6.54	≥ 5.02
		≥ 5.14
		≥ 4.89

Sanitizer, Food Contact Conclusion: All lots of Steramine satisfied the established test protocol criteria for sanitizer for food contact surfaces. Steramine meets EPA standards (OCSP 810.2200) for hard surface sanitizer claims that can be used by products sold in restaurants, food service cafeterias and other facilities that handle food. Steramine is effective as a Food Contact Sanitizer against the below listed bacteria on hard, non-porous surfaces when used (diluted) as indicated.

Contact Time: 60 seconds

Water Conditions: 500 ppm CaCO₃

Organic Soil: 5%

Test Method Sanitizer: AOAC Germicidal and Detergent Sanitizer

Dilution/Concentration: 1 oz. /4 gal. (200 ppm)

Organism	Average Population (Log ₁₀)	Log Reduction (Log ₁₀)
Aeromonas hydrophila ATCC 23213	8.05	≥ 7.05
	8.05	≥ 7.05
Organism	Average Population (Log ₁₀)	Log Reduction (Log ₁₀)
Campylobacter jejuni ATCC 29428	7.27	≥ 7.27
	7.27	≥ 7.27
Clostridium perfringensvegetative ATCC 13124	7.95	≥ 6.95
	7.95	≥ 6.95
Enterbacter sakazakii ATCC 51299	7.99	5.33
	7.99	5.04
Enterococcus faecalis Vancomycin Resistant (VRE) ATCC 51299	9.69	≥ 8.69
	9.69	≥ 8.69
Escherichia coli ATCC 11229	7.93	6.25
	7.94	5.38
	7.94	5.54
Escherichia coli O103:K-H8 ATCC 23982	7.98	5.90
	7.98	6.68
Escherichia coli O111:H8 ATCC BAA-184	7.99	≥ 6.99
	7.99	≥ 6.99
Escherichia coli O121:K-H10 ECL 39W	8.02	6.32
	8.02	6.24
Escherichia coli O157:H7 ATCC 35150	7.90	5.11
	7.90	5.72
Escherichia coli O26:H11 ATCC BAA-1653	7.94	6.09
	7.94	5.24

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Organism	Average Population (Log ₁₀)	Log Reduction (Log ₁₀)
Escherichia coli O45:K-H- ECL 1001	7.90	≥6.6
	7.90	≥6.6
Klebsiella pneumoniae ATCC 4352	8.09	≥5.07
	8.09	≥7.07
Listeria monocytogenes ATCC 984	8.22	6.39
	8.22	6.13
Salmonella enterica ATCC 10708	7.96	6.91
	7.96	≥6.95
Salmonella enteritidis ATCC 4931	7.95	6.07
	7.95	6.67
Salmonella typhi ATCC 6539	8.14	≥7.14
	8.14	≥7.14
Shigella dysenteriae ATCC 9361	7.86	≥7.87
	7.86	≥7.87
Shigella sonnei ATCC 25931	7.88	6.58
	7.88	6.88
Staphylococcus aureus ATCC 6538	7.65	5.06
	7.40	5.52
Staphylococcus aureus (MRSA) ATCC 33592	7.38	6.12
	7.98	6.09
Escherichia coli O157:H7 ATCC 35150	7.98	5.24
	7.90	5.55
Streptococcus pyogenes ATCC 12344	7.90	5.98
	8.04	≥6.04
Yersinia enterocolitica ATCC 23715	8.04	≥6.04
	7.88	≥7.88
	7.88	≥7.88

Fungicide Conclusion: All lots of Steramine satisfied the established test protocol criteria for a fungicide. Steramine meets EPA standards (OCSPP 810.2200) for hard surface fungicidal claims that can be used by products sold by products sold in, households, healthcare facilities, schools, locker rooms, dressing rooms, shower and bath areas, and exercise facilities when used (diluted) as directed.

Contact Time: 5, 10, & 15 minutes

Water Conditions: Deionized

Organic Soil: 5%

Test Method Fungicidal Activity

Dilution/Concentration: 4 oz. /5 gal. (625 ppm)

Organism	Time	Fungal Population (Log ₁₀)	Result
Trichophyton mentagrophytes ATCC 9533	5 minutes		No growth
	10 minutes	6.04	No growth
	15 minutes		No growth

SANITIZER

Steramine® is for use as an effective one-step non-food contact sanitizer and cleaner on hard, non-porous, non-food contact surfaces.

Steramine® is formulated to sanitize on hard, non-porous surfaces such as: dishes, glassware, silverware, cooking utensils and other similar size food processing equipment.

For use in restaurants, food handling and process areas, bars and institutional kitchens.

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, food products and packaging materials must be removed from the room or carefully protected.

FOOD CONTACT SANITIZING DIRECTIONS

Prior to application, remove gross food particles and soil by a pre-flush or pre-scrape and when necessary, presoak. Then thoroughly wash or flush objects with a good detergent or compatible cleaner, followed by a potable water rinse before applications of the sanitizing solution.

U.S. PUBLIC HEALTH SERVICE FOOD SERVICE SANITIZATION RECOMMENDATIONS

CLEANING AND SANITIZING

1. Thoroughly wash equipment and utensils in a hot detergent solution.
2. Rinse utensils and equipment thoroughly with potable water.
3. Sanitize equipment and utensils by immersion in 4 oz. of this product per 16 gal. of water (200 ppm active quat) (or equivalent use dilution) for at least 1 minute at a temperature of 75°F.
4. For equipment and utensils too large to sanitize by immersion, apply use solution of 4 oz. of this product per 16 gal. of water (200 ppm active quat) (or equivalent use dilution) by rinsing, spraying or swabbing until thoroughly wetted for 1 minute.

5. Allow sanitized surfaces to adequately drain and then air dry before contact with food. Do not rinse.
6. Prepare a fresh solution daily or when visibly dirty.

WISCONSIN STATE DIVISION OF HEALTH

DIRECTIONS FOR EATING ESTABLISHMENTS

1. Scrape and pre-wash hard, non-porous utensils and glasses whenever possible.
2. Wash with a good detergent or compatible cleaner.
3. Rinse with potable water.
4. Sanitize in a solution of 4 oz. of this product per 16 gal. of water (200 ppm active quat) (or equivalent use dilution). Immerse all utensils for at least 1 minute or for contact time specified by governing sanitary code.
5. Place sanitized utensils on a rack or drain board to air-dry.
6. Prepare a fresh solution daily or when visibly dirty.

Note: A clean potable water rinse following sanitization is not permitted under Section HFS 196, Appendix 7-204.11 of the Wisconsin Administrative Code (reference 40 CFR 180.940 (a)).

NON-FOOD CONTACT SANITIZING DIRECTIONS

Pre-clean heavily soiled surfaces. Add one – 4 oz. packet of this product to 16 gal. of water (or equivalent use dilution) (200 ppm active). Apply solution to hard, non-porous surfaces with a sponge, brush, cloth mop, auto scrubber, mechanical spray device, coarse trigger spray device. For spray applications, spray 6-8 inches from surface. Do not breathe spray. Treated surfaces must remain wet for 3 minutes. Prepare a fresh solution daily or when visibly dirty.

**Consult the Steramine® Efficacy Summary for performance data against specific pathogens.

Steramine® Sanitizer				
Application Size	3 Gallon Sink	4 Gallon Sink	8 Gallon Sink	16 Gallon Sink
Steramine® Sanitizer	#2376700 0.75 fl. oz.	#2307223 1 fl. oz.	#2307230 2 fl. oz.	#2307186 4 fl. oz.

Chemical Characteristics

Appearance	Clear Liquid
Biodegradable	Yes
California Compliant	Yes
Corrosive Category (Concentrate).....	Yes
Corrosive Category (Use Dilution).....	No
DEA-Free	Yes
Fragrance	None
Non-Acid	Yes
Non-Butyl	Yes
Non-Flammable	Yes
NPE-Free	Yes
pH (Concentrate).....	6.0-8.0
pH (Use Dilution).....	7.0-8.5
Phosphate-Free	Yes
VOC	None

Active Ingredients

Alkyl (60% C ₁₄ , 30% C ₁₆ , 5% C ₁₂ , 5% C ₁₈)	
Dimethyl Benzyl Ammonium Chloride	5.0%
Alkyl (68% C ₁₂ , 32% C ₁₄)	
Dimethyl Ethylbenzyl Ammonium Chloride.....	5.0%
OTHER INGREDIENTS:	90.0%
TOTAL:.....	100.0%



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