

# EFFICACY SUMMARY



## ***Powdered Detergent/Disinfectant***

**CLEANER • DETERGENT • DEODORIZER • VIRUCIDE • DISINFECTANT  
MILDEWSTAT (on hard inanimate surfaces) • FUNGICIDE (against pathogenic  
fungi) Kills Pandemic 2009 H1N1 Influenza A virus (formerly called swine flu)**

**Convenient Water-Soluble Packets for Quarts.**



***Powdered Detergent/Disinfectant  
ST-690, 125 count container***

EPA REG.NO.1839-93-3640

EPA EST. NO. 3640-WI-01

Stearns Quart'r Packs® Powdered Detergent/Disinfectant is a premeasured, phosphate-free, dual-quaternary detergent/disinfectant concentrate that cleans and deodorizes in one step. It provides the disinfection strength sought by infection control management in hospitals, nursing homes, and other health care facilities where housekeeping is of prime importance. Quart'r Packs® Powdered Detergent/Disinfectant controls the hazards of cross-contamination.

When used at the use dilution of 3.5 g per quart of water, Quart'r Packs® Powdered Detergent/Disinfectant will disinfect hard, inanimate surfaces such as tables, chairs, walls, floors, and sink tops. For larger areas, such as operating rooms, patient care facilities, and restrooms, Quart'r Packs® Powdered Detergent/Disinfectant provides general cleaning and disinfection.

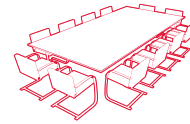
Deodorizing diaper bins, garbage pails, and other refuse storage areas is easy since Quart'r Packs® Powdered Detergent/Disinfectant eliminates odors caused by microorganisms and controls the growth of mold and mildew. The formula's unique odor counteractant system has time-proven capabilities in controlling odors.

Quart'r Packs® Powdered Detergent/Disinfectant provides antimicrobial activity and professional strength cleaning. Quart'r Packs® Powdered Detergent/Disinfectant has been tested according to the Association of Official Analytical Chemists (AOAC) Use-Dilution Method. This testing protocol confirms broad-spectrum antimicrobial activity against gram positive and gram negative bacteria, pathogenic fungi, and viruses required by the United States Environmental Protection Agency (US EPA).

Of prime concern in today's health care environment is eliminating the risk of exposure to the HIV-1 virus that causes AIDS, Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV). Quart'r Packs® Powdered Detergent/Disinfectant kills HIV-1 on pre-cleaned environmental surfaces and objects previously soiled with blood or body fluids. This minimizes the risks of transmission of HIV-1 since Quart'r Packs® Powdered Detergent/Disinfectant has been laboratory-proven effective as a virucide, fungicide, and bactericide even in the presence of organic soil (5% blood serum).

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## DISINFECTION DATA:

**Test Method:** AOAC Use Dilution

**Test Conditions:** 3.5 g / quart dilution (deionized water), 5% blood serum, 10 minute contact time, stainless steel carrier substrates, 20 degree C. exposure temperature.

**Results:**

Test Organism	SAMPLE	NUMBER OF CARRIERS		PHENOL RESISTANCE			
		EXPOSED	POSITIVE	DILUTION	EXPOSURE TIME (MIN.) VS. GROWTH		
					5	10	15
<i>Brevibacterium ammoniagenes</i> (ATCC 6871)	A	10	0	1:110	+	0	0
	B	10	0	1:120	+	+	+
<i>Enterobacter aerogenes</i> (ATCC 13048)	A	10	0	1:90	+	0	0
	B	10	0	1:100	+	+	+
<i>Escherichia coli</i> (ATCC 11229)	A	10	0	1:90	+	0	0
	B	10	0	1:100	+	+	0
<i>Klebsiella pneumoniae</i> (ATCC 4352)	A	10	0	1:60	+	0	0
	B	10	0	1:70	+	+	+
<i>Pseudomonas aeruginosa</i> PRD-10 (ATCC 15442)	A	60	1	1:80	+	0	0
	B	60	1	1:90	+	+	+
	C	60	0	--	--	--	--
<i>Salmonella (choleraesuis) enterica</i> (ATCC 10708)	A	60	0	1:90	+	0	0
	B	60	0	1:100	+	+	+
	C	60	0	--	--	--	--
<i>Salmonella (schottmuelleri) enterica</i> (ATCC 8759)	A	10	0	1:80	+	0	0
	B	10	0	1:90	+	+	+
<i>Shigella dysenteriae</i> (ATCC 12180)	A	10	0	1:90	+	0	0
	B	10	0	1:100	+	+	+
<i>Staphylococcus aureus</i> (ATCC 6538)	A	60	0	1:60	+	0	0
	B	60	0	1:70	+	+	+
	C	60	0	--	--	--	--
<i>Streptococcus faecalis</i> (ATCC 10541)	A	10	0	1:60	+	0	0
	B	10	0	1:70	+	+	+

**Conclusion:**

Under the conditions of these investigations, Quart'r Packs® Powdered Detergent / Disinfectant demonstrated **disinfectant** activity against *Brevibacterium ammoniagenes*, *Enterobacter aerogenes*, *Escheria coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Salmonella (choleraesuis) enterica*, *Salmonella (schottmuelleri) enterica*, *Shigela dysenteriae*, *Staphylococcus aureus*, and *Streptococcus faecalis* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a bactericide.

**VIRUCIDAL DATA:**

**Test Methods:** US EPA Pesticide Assessment Guidelines, Subdivision G: Product Performance, 1982, Section 91-30, pp. 72-76.  
**Test Conditions:** 3.5 g / quart dilution (deionized water), 10 minute contact time tested in the presence of organic soil load glass petri dish substrates.

**Results:**

Test Organism		SAMPLE	LOG REDUCTION
Canine Distemper	ATCC VR-128	A	≥4.0 Log <sub>10</sub>
		B	≥4.0 Log <sub>10</sub>
Feline Pneumonitis	ATCC VR-120	A	≥4.0 Log <sub>10</sub>
		B	≥4.0 Log <sub>10</sub>
Hepatitis B Virus (HBV)		A	≥3.17 Log <sub>10</sub>
		B	≥3.17 Log <sub>10</sub>
Hepatitis C Virus (HCV)		A	≥3.06 Log <sub>10</sub>
		B	≥3.06 Log <sub>10</sub>
Herpes Simplex Type 1	ATCC VR-260	A	≥4.0 Log <sub>10</sub>
		B	≥4.0 Log <sub>10</sub>
Human Immunodeficiency Virus, HTLV-III <sub>RF</sub> , strain of HIV-1 (associated with AIDS)		A	≥3.0 Log <sub>10</sub>
		B	≥3.0 Log <sub>10</sub>
Influenza A <sub>2</sub>		A	≥5.3 Log <sub>10</sub>
		B	≥5.3 Log <sub>10</sub>
Pandemic 2009 H1N1 Influenza A Virus (Refer to NOTE below.)			
Parainfluenza Type 1 (Sendai)	ATCC VR-105	A	≥4.0 Log <sub>10</sub>
		B	≥4.0 Log <sub>10</sub>
Vaccinia	ATCC VR-156	A	≥3.0 Log <sub>10</sub>
		B	≥3.0 Log <sub>10</sub>

**Conclusion:**

Under the conditions of this investigation, Quart'r Packs® Powdered Detergent / Disinfectant was **virucidal** for Canine Distemper, Feline Pneumonitis, Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Herpes Simplex 1, Influenza A<sub>2</sub>, Pandemic 2009 H1N1 Influenza A Virus, Parainfluenza Type 1 (Sendai), and Vaccinia according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a virucide.

**NOTE:** Per the EPA guidance document dated October 21, 2009, disinfectant products that bear label claims against human, avian, or swine influenza A virus, and have submitted and received approval of efficacy data to support these label claims, may include a label claim against the Pandemic 2009 H1N1 Influenza A Virus.

**FUNGICIDAL DATA:**

**Test Method:** Modified AOAC Use Dilution

**Test Organism:** *Tricophyton mentagrophytes* (ATCC 9533)

**Test Conditions:** 3.5 g / quart dilution (deionized water), 5% sterile blood serum, 20 degree C. exposure temperature.

**Results:**

SAMPLE	NUMBER OF CARRIERS		DILUTION	PHENOL RESISTANCE		
	EXPOSED	POSITIVE		EXPOSURE TIME (MIN.) VS. GROWTH		
				5	10	15
A	10	0	1:60	+	0	0
B	10	0	1:70	+	+	+
				+ = growth	0 = no growth	

**Conclusions:**

Under the conditions of this investigation, Quart'r Packs® Powdered Detergent / Disinfectant was **fungicidal** for *Tricophyton mentagrophytes* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungicide.

**MILDEW FUNGISTATIC DATA:**

**Test Method:** Hard Surface Mildew Fungistatic Test

**Test Organism:** *Aspergillus niger* (ATCC 6275)

**Test Conditions:** 3.5 g / quart dilution (deionized water) tile substrates.

**Results:**

SAMPLE	NUMBER OF EXPOSED TILES	NUMBER OF TILES SHOWING GROWTH
A	10	0
B	10	0
Control	10	10

**Conclusion:**

Under the conditions of this investigation, Quart'r Packs® Powdered Detergent / Disinfectant was **fungistatic** for *Aspergillus niger* according to criteria established by the U.S. Environmental Protection Agency for registration and labeling of a disinfectant product as a fungistat.

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### ***Cleaning Ability:***

Stearns Quart'r Packs® Powdered Detergent/Disinfectant suspends and emulsifies even hardened and dried-on soils without redeposition. The powerful detergent of Quart'r Packs® Powdered Detergent/Disinfectant removes the soil residues that might otherwise inhibit the disinfection process. This potent combination of detergency and disinfection power protects your staff and patients from the spread of disease. However, a two-step cleaning process is required where blood or body fluids are present.

Quart'r Packs® Powdered Detergent/Disinfectant will not damage tile, grouted floors, or most painted surfaces.

<b>Stearns Quart'r Packs® Powdered Detergent/Disinfectant Specifications:</b>	
EPA Registration Number:	1839-93-3640
Use Dilution:	3.5 g per quart of water
Active Ingredients:	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride
Percent Active Quaternary:	15.9% (in concentrated product)
Activity at Use Dilution:	621 ppm
Detergent Type:	Nonionic
pH at Use Dilution:	8.5
Phosphates:	None
Appearance:	pink powder
Fragrance:	Lemon
Packaging:	ST-690 4 x 125 x 3.5 g water-soluble packet ST-691 1 x 125 x 3.5 g water-soluble packet w/bottle



### **STEARNS PACKAGING CORPORATION**

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