

AQ-204

DESCRIPTION

AQ-204 is a combination acid-quat, cleaner-sanitizer that contains phosphoric acid, a 10% active, 4-chain multi-quaternary ammonium based broad-spectrum sanitizing compound, and added detergency to improve penetration and enhance coverage. This product is a broad-spectrum sanitizer that is effective as a sanitizing acidified rinse that will provide residual protection. It's 4-chains of quat provide maximum protection against a wide variety of undesirable microorganisms, and it has numerous new use approvals including a concentration range of 150-400ppm. This product is an EPA registered sanitizer.

BENEFITS

- A very broad-spectrum biocide with acid and quat components. Rapid action with detergency for added penetration into difficult areas, cracks, scratches etc.
- Residual bacteriostatic activity for 2-3 days
- May be used on food preparation areas, food-processing equipment, and non-food contact areas.
- Acid component for additional efficacy and mineral scale removal.
- Highly stable
- Economical: high dilution rate
- Highly acidic for effective acidified rinse in CIP applications

TYPICAL USE

AQ-204 is a **quat/acid based food contact surface sanitizer**. It is effective as a no rinse sanitizer from 200 to 400 ppm quat active. In addition to being a food contact surface sanitizer it also is a good disinfectant with virucidal claims against numerous avian viruses including Avian Influenza A.

Effective Disinfectant in hard water up to 400 ppm hardness (Calculated as CaCO₃) in the presence of 5% serum contamination for Industrial, Dairy, Multi-Purpose No-Rinse Acid Cleaner Food Contact Sanitizer. For Dairies, Dairy Barns, Cheese Factory, Brewery, Breweries, Food Handling and Process Areas.

EFFICACY

General Disinfection

This product is bactericidal according to the AOAC Use Dilution Test method on hard inanimate surfaces modified in the presence of 5% organic serum and 400 ppm hard water at 1 ounce of this product to gallon of water. Treated surfaces must remain wet for 10 minutes

(Testing is performed per the AOAC UDT/GST method (DIS/TSS-1). Sixty carriers are required on 3 separate lots, one of which must be > 60 days old against, *Salmonella enterica* and *Staphylococcus aureus*. Killing of 59 out of 60 carriers is required (total carriers = 360).)



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DISTRIBUTED BY:

Organism	Carrier Population	Sample	# Carriers	# Positive
<i>Salmonella enterica</i> ATCC #10708	1.22 X 10 ⁷ CFU/Carrier	A (60 Days Old)	60	1/60
	8.6 X 10 ⁶ CFU/Carrier	B	60	0/60
		C	60	0/60
<i>Staphylococcus aureus</i> ATCC #6538	9.5 X 10 ⁶ CFU/Carrier	A (60 Days Old)	60	0/60
		B	60	0/60
		C	60	0/60

Virucidal against

This product was evaluated at 1 ounce per gallon use level (800 ppm quat active), in the presence of 5% serum and 400 ppm hard water with a 10 minute contact time and found to be effective against the following viruses on hard non-porous environmental surfaces.

(Testing is performed per EPA Guidance (DIS/TSS-7). Two separate lots are tested. Inactivation of virus must be demonstrated at all dilutions when no cytotoxicity is observed or at all dilutions above the cytotoxic level when it is observed. The data must demonstrate a 3-log reduction in viral titer for both lots (3 lots for Canada))

Organism	Dried Virus Control;	Sample	Result	Log Reduction
Avian influenza A ATCC VR-2072	5.0 Log ₁₀	A	≤1.5 Log ₁₀	³ 3.5 Log ₁₀
		B	≤1.5 Log ₁₀	³ 3.5 Log ₁₀
Avian Reovirus ATCC VR-2449	4.5 Log ₁₀	A	≤0.5 Log ₁₀	³ 4.0 Log ₁₀
		B	≤0.5 Log ₁₀	³ 4.0 Log ₁₀
Infectious Bronchitis Virus Strain Beaudette/B42	5.5 Log ₁₀	A	≤0.5 Log ₁₀	³ 5.0 Log ₁₀
		B	≤0.5 Log ₁₀	³ 5.0 Log ₁₀
Infectious Laryngotracheitis Virus (LT) Strain LT-IVAX	5.0 Log ₁₀	A	≤0.5 Log ₁₀	³ 4.5 Log ₁₀
		B	≤0.5 Log ₁₀	³ 4.5 Log ₁₀
Newcastle disease virus ATCC VR-108	4.75 Log ₁₀	A	≤0.5 Log ₁₀	³ 4.25 Log ₁₀
		B	≤0.5 Log ₁₀	³ 4.25 Log ₁₀

Food Contact Sanitizer (No Rinse)

At 0.25 ounces per gallon (1 ounce per 4 gallons) (200 ppm) this product is an effective food-contact surface sanitizer eliminating 99.999% of the of the following bacteria in 60 seconds in 500 ppm hard water (calculated as CaCO₃) according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test.

Testing is performed per the AOAC method (AOAC Germicidal and Detergent Sanitizers) on 3 separate lots, one of which must be ≥ 60 days old, against both *Escherichia coli* and *Staphylococcus aureus*. Acceptable results must demonstrate a 99.999% reduction in the number of test microorganisms within 30 seconds.

Organism	Initial Organism Population	Sample	30 Second Kill CFU/mL	Percent Kill
<i>Escherichia coli</i> ATCC #11229	1.3 X 10 ⁸ CFU/Carrier	A	<10	>99.999
		B	<10	>99.999
		C	<10	>99.999
<i>Staphylococcus aureus</i> ATCC #6538	8.7 X 10 ⁷ CFU/Carrier	A	10	99.999
		B	6.3	99.999
		C	<10	>99.999
<i>Campylobacter jejuni</i> ATCC #29428	1.86 X 10 ⁷ CFU/Carrier	A	0	100 (Complete)
		B	0	100 (Complete)
<i>Escherichia coli</i> O157:H7 ATCC #43888	9.7 X 10 ⁷ CFU/Carrier	A	65	99.9999
		B	166	99.9998
<i>Listeria monocytogenes</i> ATCC #984	8.22 Log ₁₀	A	2.37 Log ₁₀	>5.85 Log ₁₀
		B	2.32 Log ₁₀	>5.90 Log ₁₀
<i>Salmonella enterica</i> ATCC #10708	7.95 Log ₁₀	A	<1.0 Log ₁₀	>6.95 Log ₁₀
		B	<1.0 Log ₁₀	>6.95 Log ₁₀
<i>Shigella dysenteriae</i> ATCC #9361	7.87 Log ₁₀	A	0 Log ₁₀	100 (Complete)
		B	0 Log ₁₀	100 (Complete)
<i>Shigella flexneri</i> ATCC #9380	8.0 X 10 ⁷ CFU/Carrier	A	11	99.9999
		B	451	99.9994
<i>Yersinia enterocolitica</i> ATCC #23715	7.88 Log ₁₀	A	0 Log ₁₀	100 (Complete)
		B	0 Log ₁₀	100 (Complete)

Non-Food Contact Surface Sanitizer

Add ¼ ounce of this product to 1 gallon of water to sanitize hard porous and non-porous non-food contact surfaces. Treated surfaces must remain wet for 5 minutes. Then wipe with sponge, mop or cloth or allow to air dry. At this dilution food contact surfaces must be rinsed.

Testing is performed per EPA Guidance (DIS/TSS-10). Three lots are required, one of which must be ≥ 60 days old. Testing is performed against *Staphylococcus aureus* and *Klebsiella pneumoniae* containing 5% organic load. *Enterobacter aerogenes* may be substituted for *Klebsiella pneumoniae*. The results must show a reduction of at least 99.9% in the number of each test microorganism over the parallel control count within 5 minutes.

Organism	Carrier Population	Sample	5 Minute Kill cfu/Carrier	Percent Reduction
<i>Enterobacter aerogenes</i> ATCC 13048	6.50 Log ₁₀	A (60 Days Old)	>5.1 Log ₁₀	>99.99
		B	>5.1 Log ₁₀	>99.99
		C	>5.1 Log ₁₀	>99.99
<i>Staphylococcus aureus</i> ATCC #6538	6.06 Log ₁₀	A (60 Days Old)	4.26 Log ₁₀	99.99
		B	4.08 Log ₁₀	99.99
		C	4.26 Log ₁₀	99.99

NOTE: Please see product label for complete use list, instructions, and various use dilution rates.