



Maintenance Solutions

SUMMARY OF ANTIMICROBIAL ACTIVITY

LOCK & FILL 14

Sanitizer

Description

LOCK & FILL 14 is a broad spectrum, neutral pH, hard surface food service sanitizer. When used as directed, this product will deliver effective biocidal action against bacteria, fungi, and viruses. This formulation is a blend of a premium active ingredients and water. Biocidal performance is attained when this product is properly diluted at 1 oz. per 4 gallons or 1:512.

Regulatory Summary

Physical Properties

EPA Registration No.	10324-63 -8325	pH of Concentrate	6.0 – 8.0	Flash Point (PMCC)	>200°F
USDA Authorization California Status	None	Specific Gravity @ 25°C	0.97 - 0.99	% Quat (mol. wt.360.5)	10% min
Canadian PCP#	None	Pounds per gallon @ 25°C	8.25	% Volatile	90
Canadian Din #	None				

Food Contact Sanitizer

Test method

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% (5 log) reduction in the number of test microorganisms within 30 seconds.

- Contact times: 30 and 60 seconds
- Organic soil: None
- Test concentration: 200 ppm quaternary ammonium salt
- Test dilution: 1 ounce per 4 gallons or 1:512
- Diluent: 500 ppm AOAC hard water

	Sample	Log Reduction		Significance
		30 Seconds	60 Seconds	
<i>Staphylococcus aureus</i> ATCC #6538	A (60 days old)	7.0	7.0	Causes skin infections such as cellulites, boils, carbuncles, impetigo and postoperative wound infections. Can cause food poisoning. Both community and hospital infections such as bacteremia, endocarditis, meningitis, pneumonia and osteomyelitis.
	B	7.0	7.0	
	C	7.0	7.0	
<i>Escherichia coli</i> ATCC #11229	A (60 days old)	>7.0	>7.0	Causes severe foodborne disease. Infection often leads to bloody diarrhea and occasional kidney failure. Transmitted to man from contaminated (under cooked) meat and/or raw milk.
	B	>7.0	>7.0	
	C	>7.0	>7.0	

Supplemental Organisms

Testing is performed per the AOAC method (AOAC Germicidal and Detergent Sanitizers) on 2 separate lots against each supplemental organism. Acceptable results must demonstrate a 99.999% reduction in the number of test microorganisms within 30 seconds.

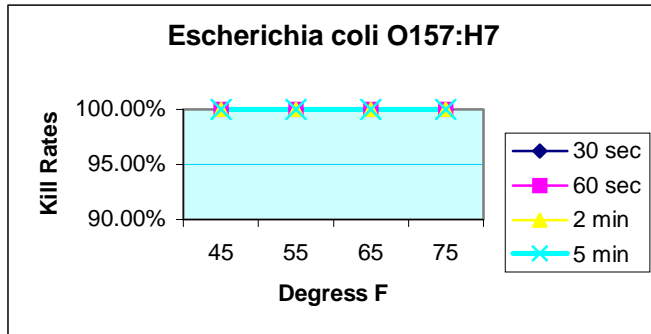
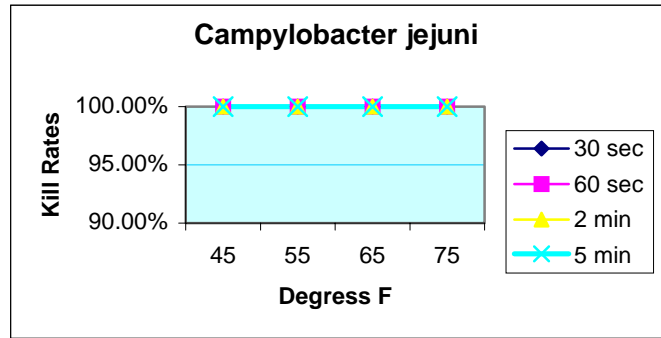
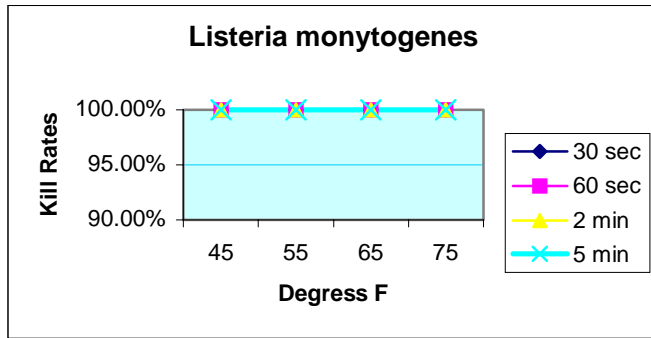
	Sample	Log Reduction		Significance
		30 Seconds	60 Seconds	
<i>Campylobacter jejuni</i> ATCC #29428	A	>7.0	>7.0	Common cause of diarrheal illness mostly carried by birds and transferred in under cooked meat.
	B	>7.0	>7.0	
<i>Escherichia coli</i> <i>O157:H7</i> ATCC #43888	A	>5.0	>5.5	A virulent strain of E. coli that can cause severe foodborne disease. Infection often leads to bloody diarrhea and occasional kidney failure. Transmitted to man from contaminated (under cooked) meat and/or raw milk
	B	>5.0	>5.5	
<i>Listeria monocytogenes</i> ATCC #984	A	>6.5	>7.0	Can cause serious foodborne illness listeriosis. Primarily occurs in pregnant women, newborns and persons with impaired immunity. Bacteria spread from meat and dairy products. Grows at refrigerated temperatures and can survive with little or no oxygen.
	B	>7.0	>7.0	
<i>Shigella dysenteriae</i> ATCC #9361	A	>7.5	>7.5	Symptoms include diarrhea which may be mild or severe, along with fever and nausea. The diarrhea may be watery or bloody. Vomiting and abdominal cramping may also occur.

In general, *S. dysenteriae*, *S. flexneri*, and *S. boydii* account for most isolates in developing countries. Conversely, *S. sonnei* is most common and *S. dysenteriae* is least common in developed countries.

	B	>7.5	>7.5	
<i>Yersinia enterocolitica</i> ATCC #23715	A	>7.5	>7.5	<i>Yersinia enterocolitica</i> is a small rod-shaped, Gram-negative bacterium. <i>Yersinia enterocolitica</i> can infect the digestive tracts of humans, cats, dogs, pigs, cattle, and goats. Symptoms of yersiniosis include abdominal pain, fever, diarrhea and/or bloody diarrhea and sometimes vomiting. Symptoms typically occur within one to seven days after ingestion and often last for more than a week.
	B	>7.5	>7.5	

Time Kill Assay of LOCK & FILL 14

The objective of this test is to show the efficacy of **LOCK & FILL 14** against *Escherichia coli* O157:H7, *Campylobacter jejuni* and *Listeria monocytogenes* over time and varying temperatures. **LOCK & FILL 14** was tested at one ounce per 4 gallons (200 ppm quat active) dilution in the presence of 500 ppm hard water.



Summary: There was no significant difference in kill rates in the above organisms over time and temperatures tested.

Nothing contained herein grants or extends a license, express or implied, in connection with patents, issued or pending, of the manufacturer or others. The information contained herein is based on the manufacturer's own study and the works of others. The manufacturer makes no warranties, expressed or implied, as to the accuracy, completeness, or adequacy of the information contained herein. The manufacturer shall not be liable (regardless of fault) to the vendee's employees, or anyone for any direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy or furnishing of such information.