

US EPA ARCHIVE DOCUMENT

TECHNICAL SUPPORT SECTION EFFICACY REVIEW - I

Disinfectants Branch

IN 7-15-81 OUT 10-16-81

Reviewed By William E. Campbell, Jr. Date 10/16/81

EPA Reg. No. or File Symbol 1677-ON

EPA Petition or EUP No. ---

Date Division Received 6-15-81

Type Product(s): Sanitizer/Food Contact Surfaces

Data Accession No(s). 245478

Product Mgr. No. 32 (Castillo)

Product Name(s) Cut Bac

Company Name(s) Economic Laboratory Inc.

Submission Purpose New Registration with Data

Chemical & Formulation Liquid Concentrate

Active Ingredient(s): g

Phosphoric Acid	22.5
Citric Acid	19.5
Alkanoic (C ₈ 58%, C ₁₄ -41%) Acid	6.8

200.0 Introduction

200.1 Use: CIP acid sanitizer for dairy and food processing equipment.
For agricultural or commercial use only.

201.0 Data Summary

201.1 Brief Description of Tests:

A) Germicidal and Detergent Sanitizers Method, Official Final
Action, AOAC Methods of Analysis, 13th Edition, 1980.

Organisms

1. Staphylococcus aureus ATCC 6538
Phenol Resistance 1:60
2. Escherichia coli ATCC 11229
Phenol Resistance 1:90

Samples Tested

Date Made

- | | |
|-----------------------|---------|
| 1. Batch No 4668-38-2 | 2-5-81 |
| 2. Batch No 4663-41 | 2-10-81 |
| 3. Batch No 4730-1-2 | 3-10-81 |

B) Neutralization Study: See the attached report for the test
method employed.

201.2 Data Summaries: The results of the Germicidal and Detergent
Sanitizers Test are summarized in the attached table.

The results of the neutralization study are given in the attached
report.

Test Concentration:

1 ounce:5 gallons (0.156%)

Results: 30 second exposure

Staphylococcus aureus

<u>Sample</u>	<u>Test Date</u>	<u>Test Water</u>	<u>Numbers Control</u>	<u>Survivor Count</u>	<u>Percent Reduction</u>
4668-38-2	2-5-81	500 ppm	7.6×10^7	<100	>99.999
4668-41	3-5-81	500 ppm	9.5×10^7	<100	>99.999
4730-1-2	4-16-81	500 ppm	8.3×10^7	<100	>99.999
4668-38-2	4-16-81	Distilled	8.3×10^7	1.0×10^1	>99.999
4668-41	4-16-81	Distilled	8.3×10^7	<10	>99.999
4730-1-2	4-16-81	Distilled	8.3×10^7	<10	>99.999

Escherichia coli

<u>Sample</u>	<u>Test Date</u>	<u>Test Water</u>	<u>Numbers Control</u>	<u>Survivor Count</u>	<u>Percent Reduction</u>
4668-38-2	2-5-81	500 ppm	7.7×10^7	<100	>99.999
4668-41	3-13-81	500 ppm	1.1×10^8	1.0×10^2	>99.999
4730-1-2	4-16-81	500 ppm	8.9×10^7	<100	>99.999
4668-38-2	4-16-81	Distilled	8.9×10^7	<10	>99.999
4668-41	4-16-81	Distilled	8.9×10^7	1.0×10^1	>99.999
4730-1-2	4-16-81	Distilled	8.9×10^7	<10	>99.999

"<" denotes "less than"
">" denotes "greater than"

Sixty-Day Storage Stability Test: Batch 4668-41 (made 2-10-81)

Staphylococcus aureus

<u>Sample</u>	<u>Test Date</u>	<u>Test Water</u>	<u>Numbers Control</u>	<u>Survivor Count</u>	<u>Percent Reduction</u>
4668-41	4-13-81	500 ppm	8.4×10^7	6.0×10^1	>99.999
4668-41	4-16-81	Distilled	8.3×10^7	<10	>99.999

Escherichia coli

<u>Sample</u>	<u>Test Date</u>	<u>Test water</u>	<u>Numbers Control</u>	<u>Survivor Count</u>	<u>Percent Reduction</u>
4668-41	4-13-81	500 ppm	8.8×10^7	<10	>99.999
4668-41	4-16-81	Distilled	8.9×10^7	1.0×10^1	>99.999

Neutralization Study: CUT-BAC

Method:

Neutralizer inoculated with 48-hour broth culture of Staphylococcus aureus (1.0×10^7 final concentration). Test sanitizer (4668-41) diluted in neutralizer/organism mix to yield final sanitizer:neutralizer ratios of: A) 1:10 (10%), B) 1:100 (1.0%), and c) 1:1000 (0.1%). These mixtures were sub-cultured into growth medium after one, five and thirty minute exposure times.

Neutralizer: A.O.A.C. Neutralizing Medium 4.023 (d), A.O.A.C. Methods of Analysis, 13th Edition, 1980.

Growth Medium: A.O.A.C. "Lethen Broth", 4.001 (d) (3), A.O.A.C. Methods of Analysis, 13th Edition, 1980.

Results:

<u>Sanitizer/ Neutralizer</u>	<u>Incubation</u>					
	<u>24 hrs. Exposure</u>			<u>48 hrs. Exposure</u>		
	<u>1 min.</u>	<u>5 min.</u>	<u>30 min.</u>	<u>1 min.</u>	<u>5 min.</u>	<u>30 min.</u>
A) 10%	-	-	-	-	-	-
B) 1.0%	+	-	-	+	-	-
C) 0.1%	+	+	+	+	+	+
Control	+	+	+	+	+	+

"+" denotes "growth"

"-" denotes "no growth"

Conclusions:

Sanitizer/Neutralizer (A) (10%) was not effectively neutralized.

Sanitizer/Neutralizer (B) (1.0%) was neutralized at 1 min. exposure time only.

Sanitizer/Neutralizer (C) (0.1%) was effectively neutralized at all exposure times.

Neutralizing medium (control) did not adversely affect growth when sub-cultured.