



E.P.A. Reg. No. 1457-16

CETOL

Active Ingredients:

Alkyl (95% C₁₆, 5% C₁₈) dimethyl benzyl ammonium chloride. 100%

CETOL is a highly effective antibacterial quaternary ammonium compound used in the formulation of sanitizers and disinfectants that may be used to treat the following equipment and/or areas:

- | | |
|----------------------------|--------------------|
| *Milking machines | Urinals |
| *Milk cans | *Food storage bins |
| *Dishes, glasses & cutlery | Animal cages |
| *Food processing equipment | Walls |
| Floors (sluicing) | Cold storage room |
| Operating theater | Garbage cans |

*Must be rinsed in potable water after treatment.

FOR USE ONLY IN THE MANUFACTURE OF
SANITIZERS AND DISINFECTANTS

ACCEPTED
JUN - 8 1973
1457-16

Keep out of reach of children. Corrosive. Causes eye damage and skin irritation. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. Avoid contamination of food.

DANGER

KEEP OUT OF REACH OF CHILDREN

FIRST AID: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse. If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution or, if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsion may be needed.

DO NOT REUSE CONTAINER ----- DESTROY WHEN EMPTY



technical data

CETOL

Fine Organics Inc.

200 Main Street - 1000 New York 17, N.Y.

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JUN 8 1973
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Chemical Name: Alkyl (C₁₆ 95%, C₁₈ 5%) dimethyl benzyl ammonium chloride

Physical Properties

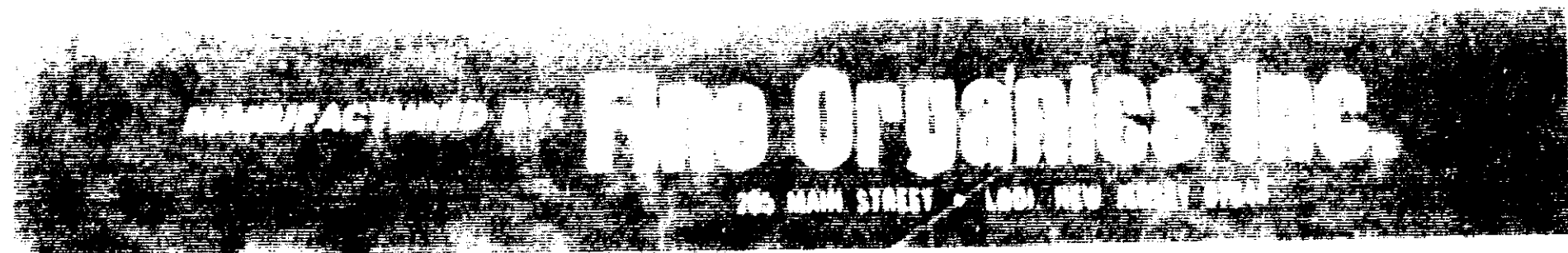
CETOL, chemically 95% cetyl dimethyl benzyl ammonium chloride, is a white, crystalline powder having a melting point of 55-66°C. It is soluble in water and the solution is clear, colorless, neutral and very slightly bitter and astringent to the taste. CETOL has a low surface tension and therefore disperses more readily into pores and crevices of the skin which may harbor microorganisms. Therefore, the surface tension of an antiseptic determines its penetrating power. The following table, as determined by a DuNouy Tensiometer, gives the surface tension values of CETOL:

<u>Dilution of Material</u>	<u>Temperature</u>	<u>Surface Tension-dynes/cm</u>
CETOL 1:1,000	24°C	40.0
Distilled Water	24°C	74.0

Bactericidal and Bacteriostatic Tests

Results will vary depending upon the total formulation and end use. As a guide, CETOL has been tested in the presence of many types of bacteria, yeast, and fungi. Aseptic dilutions of the test material were prepared in Bacteriostasis Broth (Difco), inoculated at 1:100 level with 24 hr. broth cultures and incubated for 48 hrs. at 37°C. At the end of the incubation period, all dilution tubes that remained negative were subcultured by means of a standard transfer loop, into Lethen Broth. The sub-culture tubes were likewise incubated for 48 hrs. at 37°C. All negative subculture tubes were recorded as cidal activity. All test dilutions were prepared so both a static and cidal end point were determined.

Tabulated Results - Levels of activity in ppm



<u>Organism</u>	Static Level	Cidal Level
	ppm	ppm
Staphylococcus aureus ATCC 6538	0.63	2.50
Escherichia coli ATCC 11229	8	16
Pseudomonas aeruginosa ATCC 10145	250	>1,000
Salmonella choleraesius ATCC 10708	250	500
Bacillus subtilis ATCC 9372	8	16
Brevibacterium ammoniagenes ATCC 6871	8	8
Klebsiella pneumonia ATCC 13906	16	31
Proteus mirabilis ATCC 7002	125	250
Pityrosporum ovale ATCC 14521	63	63
Candida albicans ATCC 2091	125	125
Aspergillus flavus ATCC 9643	8	31
Aspergillus niger ATCC 6245	63	125
Aspergillus niger ATCC 7797	63	125
Penicillium expansum ATCC 1117	16	63
Penicillium variable NRRL 3765	63	250

Irritability Tests

Tests for irritability were made on rabbits by the usual urinary bladder procedure. Ten (10) cc of a 1:1000 solution of CETOL was introduced into the urinary bladder of each of three rabbits by means of a catheter and the solution allowed to remain until voided by the rabbit. This procedure was repeated daily for seven days. At the end of this period, the rabbits were sacrificed and the bladder wall examined. During the entire test period there were no signs of irritating of the external genitals aside from what was due to the daily insertion of the catheter. No edema of these organs was found as with more concentrated solutions. Upon inspection, the bladder wall appeared normal and there was no indication of irritation. These studies indicated that a 1:1000 solution of CETOL is not irritating to the bladder mucosa.

Irritation tests were carried out on the oral mucosa of rabbits. In this test, three applications of 1:1000 solution of CETOL were made daily at 15 minute intervals to the same area. Applications of a normal saline solution were made similarly on another areas as a control. This procedure was continued for eight days with no indication of irritation.

CETOL Technical Data Sheet

... 1000, ...
 ... the test ...
 control. In the ...
 irritation; in one rabbit a mild irritation. The next ...
 eyes were still slightly irritated. ...
 dilution produced a mild irritation, but on the following morning
 all eyes appeared normal. The 1:4000 dilution produced a mild
 irritation in one rabbit and only a slight irritation in two others.
 All appeared normal on the following morning.

PEB/mb
 8/18/72