PLC MARK TEN

EFFECTIVE ENVIRONMENTAL SANITATION -

A disinfectant/deodorizer/sanitizer when used on previously cleaned environmental hard surfaces.* Sanitizes at 1/4 ounce per gallon of water and disinfects at 3 1/2 ounces per 5 gallons of water. Formulated for use in Food Processing Plants, Restaurants, Bars, Hospitals, Nursing Homes, and Institutions.

- DISINFECTANT
  STAPHYLOCIDAL - *Staphylococcus aureus*
  PSEUDOMONACIDAL - *Pseudomonas aeruginosa*
  BACTERICIDAL - *Salmonella choleraesuis*

- DEODORIZER - 2 stage
  Bactericidal - kills odor causing bacteri
  Neutralizes odor particles

- SANITIZER
  Staphylococcus aureus
  Escherichia coli

- FUNGICIDAL - *Trichophyton interdigitale* - athlete's foot fungus

- VIRUCIDAL
  Influenza A$_2$ - Hong Kong, causative virus of flu
  Herpes Simplex - causative virus of cold sores, fever blisters
  Adenovirus type 5 - causative virus of acute respiratory disease
  Vaccinia Virus - causative virus of small pox

- PHENOL COEFFICIENTS - Guaranteed minimum

Staphylococcus aureus	92
Salmonella typhosa	60

- NO RINSE - Authorized by FDA for a No Rinse Claim when used for sanitization of food processing and food contact items at 200 ppm. of active quaternaries.

- Authorized by USDA for use in federally inspected meat and poultry plants as a sanitizing solution.

*Supportive data on file with the Environmental Protection Agency, Washington, D. C.

EPA Reg. No. 18035-5 EPA Est. 18035-MN-1

PRIVATE LABEL CHEMICALS, INC.
2280 TERMINAL ROAD
ST. PAUL, MINN. 55113

SUPPORTING DATA

PROCEDURE

[illegible] chloride was prepared as follows

[illegible]

[illegible] (C_{14}, 3[illegible] C_{16}, [illegible] C_{12}, [illegible] C_{18}) [illegible] benzyl ammonium chlorides	25.0
[illegible] (C_{12}, 32[illegible] C_{14}) [illegible]methyl ethyl benzyl ammonium chlorides	25.0
[illegible] Ingredients	50.0
	100.0

This quaternary ammonium chloride product was made up as separate and discrete preparations in the following instances:

#69-315
#69-B-13
#69-B-24

These formulations were tested for bactericidal and fungicidal activity by the appropriate AOAC test procedures.

The test data obtained are summarized as follows.

Bactericidal

(1) At 400 ppm. active against [illegible], at 450 ppm. active against [illegible], at 550 ppm. active against [illegible] by the Use Dilution method.

(2) A Guaranteed minimum phenol coefficient of 576 and 604 against [illegible] and [illegible] respectively, on a 100% activity basis.

(3) Sanitizing activity at 200 ppm. active, with a hard water tolerance of 750 ppm. synthetic hard water (as $CaCO_3$) for [illegible] and [illegible].

Fungicidal

Fungicidal activity at 1/800 aqueous dilution (1250 ppm) against [illegible] on a 100% activity basis.

FUNGICIDAL EFFICACY

Fungicidal by the AOAC Fungicidal Test

highest aqueous dilution of germicide (on a 100% activity basis) which kills [illegible] in 10 minutes, but not in 5 minutes.

formulation	dilution	kill (-)/no kill (+) after (min.) 5	10	15
#69-315 (a)	1/250	-	-	-
	1/400	-	-	-
	1/500	+	-	-
	1/600	+	-	-
	1/700	+	-	-
	1/800	+	-	-
	1/900	+	-	-
	1/1000	+	+	-
phenol resistance	1/60	+	-	-
	1/70	+	+	+
#69-315 (b)	1/600	+	-	-
	1/700	+	-	-
	1/750	+	-	-
	1/800	+	-	-
	1/850	+	+	-
	1/900	+	+	-
	1/950	+	+	-
	1/1000	+	+	+
phenol resistance	1/60	+	-	-
	1/70	+	+	+

Azolectin/Tween 80 dextrose broth used as subculture medium.

BACTERICIDAL EFFICACY

Bactericidal by the AOAC Use Dilution Method

negative subcultures/10 replicate stainless steel carriers inoculated with [illegible] or [illegible] are treated with germicide at several aqueous dilutions for 10 minutes.

date	formulation	PPM germicide	# negative subcultures/10 replicates SA	SC	PA
[illegible]	69-315	400		10/10, 10/10, 10/10	
[illegible]		450	10/10, 10/10, 10/10		
[illegible]			10/10, 10/10, 10/10		
[illegible]		[illegible]			10/10, 10/10, 10/10
		Total	[illegible]	30/30	30/30
[illegible]	69-315	[illegible]	[illegible], 10/10, [illegible]		
	[illegible]	Total	30/3[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]		
	[illegible]	Total	[illegible]		
[illegible]	[illegible]	[illegible]		10/10, [illegible], 10/10	
[illegible]		[illegible]	[illegible]		
[illegible]		[illegible]			10/10, 10/10, 10/10
		[illegible]	[illegible]	30/30	30/30
[illegible]	[illegible]	[illegible]		10/10, 10/10, [illegible]	
[illegible]		[illegible]	[illegible]		
					[illegible]
		[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

VIRUCIDAL EFFICACY

ADENOVIRUS TYPE 5

Procedure. The virus was grown in Hela cell cultures and had a titer of 10^6 infectious doses per 0.1 ml after 9 days incubation at 37C. For the test, 1 ml of virus was added to 9 ml of the germicide. After 10 minutes contact at room temperature the virus-germicide mixture was diluted in broth to the titer of the virus and inactivation was determined by comparing the titer of the treated virus with that of the untreated virus. Viral control. Saline was substituted for the germicide. The presence of active virus was determined by the inoculation of 0.1 ml of the test preparations into each of four cell culture tubes. Cells were incubated for 8 days and observed for cytopathogenic effect.

Results

Dilution of virus-germicide or virus-saline mixture.	Control Virus-Saline	Test Virus-Germicide
10^{-1}	+ + + +	T T T T
10^{-2}	+ + + +	+ + + +
10^{-3}	+ + + +	0 0 0 0
10^{-4}	+ + + +	0 0 0 0
10^{-5}	+ + + +	0 0 0 0
10^{-6}	+ + + +	0 0 0 0
10^{-7}	0 0 0 0	0 0 0 0
10^{-8}	0 0 0 0	0 0 0 0

+ = Virus present

0 = Virus absent

T = Toxicity due to germicide. Presence or absence of virus could not be determined.

Summary. Under the above test conditions the compound inactivated four logs of virus.

HERPES SIMPLEX

Procedure. The virus was grown and assayed in rabbit kidney culture. The titer of cell culture was 10^7 tissue culture doses per 0.1 ml as indicated by the cytopathogenic effect of the virus after 5 days incubation at 37C. For the test, 1 ml of virus was added to 9 ml of the germicide. After 10 minutes contact at room temperature the virus-germicide mixture was diluted in broth to the titer of the virus and inactivation was determined by comparing the titer of the treated virus with that of the untreated virus. Viral control. Saline was substituted for the germicide. The presence of active virus was determined by the inoculation of 0.1 ml of the test preparations into each of four cell culture tubes. Cells were incubated for 5 days and observed for cytopathogenic effect.

Results

Dilution of virus-germicide or virus-saline mixture.	Control Virus-Saline	Test Virus-Germicide
10^{-1}	+ + + +	T T T T
10^{-2}	+ + + +	0 0 0 0
10^{-3}	+ + + +	0 0 0 0
10^{-4}	+ + + +	0 0 0 0
10^{-5}	+ + + +	0 0 0 0
10^{-6}	+ + + +	0 0 0 0
10^{-7}	0 0 0 0	0 0 0 0
10^{-8}	0 0 0 0	0 0 0 0

+ = Virus present

0 = Virus absent

T = Toxicity due to germicide. Presence or absence of virus could not be determined.

Summary. The compound completely inactivated the virus of herpes simplex under the above test conditions.

INFLUENZA A_2

Procedure. The virus was grown in the allantoic sac of 10 day old chick embryos. The virus was harvested after 40 hours incubation at 37C and had an infectivity titer of 10^6 egg infectious doses per 0.1 ml of allantoic fluid, as determined by hemagglutination of a 0.5% suspension of chicken red blood cells. The virus diluted 1:5 in saline was mixed with 9 parts of the test dilution of the germicide. After 10 minutes contact at room temperature, ten-fold serial dilutions were prepared in broth and 0.1 ml of the virus-germicide (or virus-saline as the control) was inoculated into each of six ten day old embryos via the allantoic cavity. Active virus was indicated by the hemagglutination of a 0.5% suspension of chicken red blood cells by the infected allantoic fluid.

Results

Dilution of virus-germicide or virus-saline mixture.	Control Virus-Saline	Test Virus-Germicide
10^{-1}	+ + + + + +	[illegible]
10^{-2}	+ + + + + +	[illegible]
10^{-3}	+ + + + + +	[illegible]
10^{-4}	+ + + + + +	[illegible]
10^{-5}	+ + + + + +	[illegible]
10^{-6}	+ + + + + +	[illegible]
10^{-7}	[illegible]	[illegible]
10^{-8}	[illegible]	[illegible]

[illegible]

VACCINIA VIRUS

Procedure. The virus was grown and assayed in rabbit kidney culture. The titer in cell culture was 10^7 tissue culture doses per 0.1 ml as indicated by the cytopathogenic effect of the virus after 5 days incubation at 37 C. For the test, 1 ml of virus was added to 9 ml of the germicide. After 10 minutes contact at room temperature the virus-germicide mixture was diluted in broth to the titer of the virus and inactivation was determined by comparing the titer of the treated virus with that of the untreated virus. Viral control. Saline was substituted for the germicide. The presence of active virus was determined by the inoculation of 0.1 ml of the test preparations into each of four cell culture tubes. Cells were incubated for 5 days and observed for cytopathogenic effect.

Results

Dilution of virus-germicide or virus-saline mixture.	Control Virus-Saline	Test Virus-Germicide
10^{-1}	+ + + +	T T T T
10^{-2}	+ + + +	[illegible]
10^{-3}	+ + + +	[illegible]
10^{-4}	+ + + +	[illegible]
10^{-5}	+ + + +	[illegible]
10^{-6}	+ + + +	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]

CHEMICAL AND PHYSICAL PROPERTIES

pH undiluted - 7.3

pH diluted 3:640 - 7.8

Odor - Pleasant and mild.

Appearance - Translucent colorless liquid.

Viscosity - Free flowing liquid

Foam level - Moderate.

Specific gravity - 1.0014

Solubility - Readily soluble at recommended dilution in hot, cold, soft, or hard water.

Discoloration - Non-staining.

Phosphates - Contains no phosphorous compounds.

Film residue - Leaves no scum or residue at recommended use dilution.

Corrosion factor - Non-corrosive to metals at the proper use dilution.

Toxicity - The use of protective gloves is recommended for manual application. Concentrate produces eye damage and severe skin irritation.

Stability - Stable at normal temperatures. Does not discolor on exposure to light or heat.

Active quaternary - 10%

USE DIRECTIONS

FOOD PROCESSING EQUIPMENT: Use this product at 1/4 ounce per gallon of water. Sanitizes previously cleaned Food Processing Equipment and Food Utensils at 200 ppm. of active quaternaries. At this level, POTABLE WATER RINSE IS NOT REQUIRED.

RESTAURANT AND BAR RINSE: Use this product at 1/4 ounce per gallon of water. Sanitizes previously washed and rinsed dishes, glassware, silverware, cooking utensils.

DAIRIES: To sanitize dairy equipment such as tanks, lines, pails, and milk cans, first clean and rinse the equipment thoroughly. Then apply sanitizing solution containing 1/4 ounce of this product to 1 gallon of water (200 ppm.). Follow recommendations of local Health Board.

INSTITUTIONS: Sanitize with 1/4 ounce of this product to 1 gallon of water. Disinfect with 3½ ounces of this product to 5 gallons of water. For heavily soiled or contaminated areas, a precleaning step is recommended. For sanitizing and disinfecting Floors, Walls, and Inanimate Hard Surfaces: Locker Rooms, Garbage Pails, Sink Tops, and Shower Stalls.

HOSPITALS: Use this product at 3½ ounces per 5 gallons of water. Apply with cloth, sponge, mop, or spray. Disinfects Floors and Walls as well as Sink Tops, Garbage Pails, Telephones, Shower Stalls, Locker Rooms, and Restrooms.

COLD DISINFECTION: Submerge instruments into solution containing 1½ ounces of this product per gallon of water for 10 minutes for disinfection of previously cleaned surgical instruments, barber and dental equipment.

ROOM FOGGING: Apply solution of this product as a fog, to minimize the danger of cross-infection from environmental surfaces, before applying standard routine terminal cleaning and disinfecting practices.

Remove all human, animal, and plant life from room. Before fogging, food products and packaged materials must be removed from the room or carefully protected. Open closet doors and drawers. Set up 34" revolving platform in center of room. Mount *FOGMASTER TRI-JET* model 6208 (manufactured by *AFA CORP.* subsidiary of *Thiokol Chemical Corp.*) or other fogging device, delivering equivalent spray at 3 RPM. Fill Sprayer reservoir with 1½ ounces of this product. Set sprayer mechanism to deliver 1 gallon of solution. Fog for 15 minutes for an average 2100 cu. ft. room. For different room sizes, vary spray time proportionately to ensure complete wetting of exposed surfaces. Wait 2 hours before entering room after treatment. A potable water rinse must be made on all food contact surfaces before their use. Rinse fogging equipment thoroughly with clear water following use.

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