

This product is a non-phosphate cleaner, disinfectant, and sanitizer designed for institutional use, such as, Hospitals, Nursing Homes, and Schools where housekeeping will be of prime importance in controlling the hazard of cross-infection from environmental surfaces.

For use on floors, walls, sink tops, garbage pails, telephones, rest rooms, bed pans and operating rooms.

*This product when used as directed on environmental, inanimate, hard surfaces at $\frac{1}{2}$ ounce per gallon of water, is effective against *Influenza A*, *Herpes Simplex*, *Adenovirus type 5*, and *Vaccinia viruses*. Also effective against *Staphylococcus aureus*, *Salmonella choleraesuis*, *Pseudomonas aeruginosa* and pathogenic fungi, *Trichophyton interdigitale*.

DANGER

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

FIRST AID

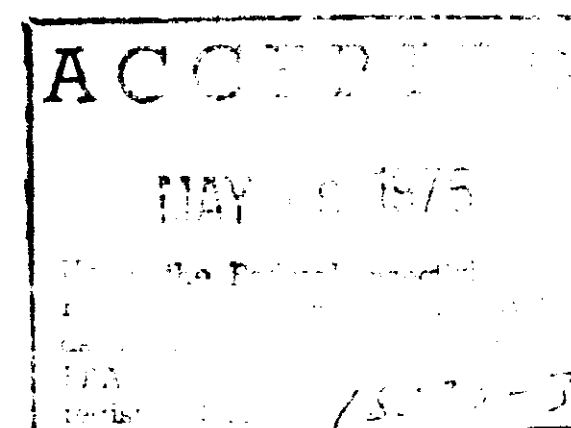
In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes call a physician. Remove and wash all contaminated clothing before reuse. If swallowed, drink milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid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

NOTE TO PHYSICIAN

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

DANGER : Keep Out of Reach of Children.

See left side panel for additional precautionary and first aid statements.



PLC-QUAT II

detergent/disinfectant

concentrated sanitizer, fungicide, deodorizer, pseudomonacidal,* virucidal

ACTIVE INGREDIENTS

4-Alkyl-16P-1,3,4,5-Tetrakis(4-chlorophenyl)-1,3,4,5-tetrahydro-2H-pyrimidin-2-one
4-Alkyl-16P-1,3,4,5-Tetrakis(4-chlorophenyl)-1,3,4,5-tetrahydro-2H-pyrimidin-2-one
Tetrasodium ethylenediamine tetrasulfate
Sodium Resiquarbitate

INERT INGREDIENT

NET CONTENTS: 1 U.S. GALLON

USE DIRECTIONS:

Use at $\frac{1}{2}$ ounce per gallon of water for effective disinfection.

At $\frac{1}{2}$ ounce per gallon of water for effective disinfection against pathogens.

For best results apply to walls, floors, and other hard surfaces.

If used for sanitizing food contact surfaces, dilute to 200 ppm. (1 oz. per 5 gallons of water).

For heavy soils, a scrub brush is recommended.

PHENOL COEFFICIENT

Rinse empty container before reuse.

PRIVATE LABEL CHEMICALS

2280 Terminal
St. Paul, Minn.

f gastric lavage. Measures
convulsion may be needed.

NET CONTENTS: 1 U.S. GALLON

2280 Terminal Road
St. Paul, Minn. 55113

EPA Est. 18035-MN-1

PLC QUAT II

USES

Use on all environmental surfaces such as floors, walls, ceilings, lab bench tops, sink tops, telephones, garbage cans, bed pans, rest rooms, woodwork, bed frames, isolation units, recovery areas, food service areas, sickroom equipment.

USE DIRECTIONS

Use at 1/2 ounce per gallon of water. This product will be effective against *Pseudomonas aeruginosa* at 10^7 at this level.

At 1/2 ounce per gallon of water this product is fungicidal against pathogenic fungi.

For best results, use this product with a cloth or mop and apply to walls, floors and other hard surfaces.

If used for sanitization of previously cleaned food equipment or food contact items, limit the level of active quaternaries to 200 ppm. (1 ounce/5 gallons). Prior to reuse, rinse with potable water.

For heavy soil or organic matter, a precleaning step is recommended.

CHEMICAL AND PHYSICAL PROPERTIES

pH undiluted - $10.0 \pm .1$	Phosphates - Contains no phosphorous compounds.
pH diluted 1:256 - $9.5 \pm .1$	
Odor - Mild floral fragrance.	Corrosion factor - Non-corrosive to metals at the proper use dilution.
Appearance - Translucent pink liquid.	Biodegradability - Detergent base considered to be biodegradable.
Viscosity - Free flowing liquid.	Stability - Stable at normal temperatures. Does not discolor on exposure to light or heat.
Foam level - Moderate.	
Specific gravity - 1.0432	Toxicity - The use of protective gloves is recommended for manual application. Concentrate produces eye damage and severe skin irritation.
Discoloration - Non-staining.	
Solubility - Readily soluble at recommended dilution in hot, cold, soft, or hard water.	Film residue - Leaves no scum or residue at recommended use dilution.
Active quaternary - 4.5%	

EFFECTIVE ENVIRONMENTAL SANITATION -

A detergent-disinfectant system when used at 1/2 ounce per gallon of water. A concentrated non-phosphate cleaner-sanitizer designed for Hospitals, Nursing Homes, Schools where house-keeping is of prime importance in controlling cross-infection from environmental hard surfaces.*

- CONCENTRATED DETERGENT - blend of wetting agents, water softeners and sequestering agents to lift, emulsify and suspend soil.

● DISINFECTANT

STAPHYLOCIDAL

Staphylococcus aureus - may cause abscesses, endocarditis, septicemia

PSEUDOMONACIDAL

Pseudomonas aeruginosa - the blue pus organism in various suppurative infections

BACTERICIDAL

Brevibacterium ammoniagenes - causative agent of ammonia dermatitis in infants

Enterobacter aerogenes - may cause infections in hospital patients

Escherichia coli - may cause enteritis in infants, urinary tract infections

Klebsiella pneumoniae - may cause pneumonia or other respiratory tract infections

Salmonella choleraesuis - may cause lesions, enteric fever, gastroenteritis

Salmonella schottmuelleri - causative agent of enteric fever

Shigella dysenteriae - causative agent of a virulent form of dysentery

Streptococcus faecalis - may cause endocarditis, genito-urinary or wound infections

● SANITIZER

Staphylococcus aureus

Escherichia coli

● FUNGICIDAL

Trichophyton interdigitale - athlete's foot fungus

● VIRUCIDAL

Influenza A₁ - 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

● DEODORIZER - 2 stage

Bactericidal - kills odor causing bacteria

Neutralizes odor particles

● PHENOL COEFFICIENTS - Guaranteed minimum

Staphylococcus aureus

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Salmonella typhosa - causative agent of typhoid fever

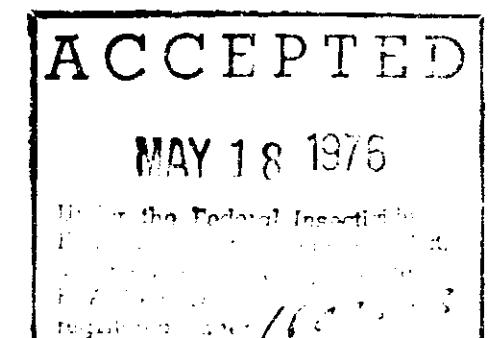
72

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

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

EPA Reg. No. 18035-3

EPA Est. 180-5-MN-1



PRIVATE
2000 E. 11th St.
ST. PAUL, MINN. 55113

SUPPORTING DATA

PROCEDURE

A detergent/disinfectant formulation was prepared as follows:

Active Ingredients

n-alkyl (60% C₁₄, 30% C₁₆, 5% C₁₈, 5% C₁₈)
dimethyl benzyl ammonium chlorides 6.25%

n-alkyl (68% C₁₂, 32% C₁₄)
dimethyl ethyl benzyl ammonium chlorides 6.25%

sodium sesqui carbonate 3.0%

tetrasodium ethylenediamine tetracetate 2.25%

Inert Ingredients 82.25%
100.0%

This formulation was prepared as separate and discrete laboratory preparations in the following instances:

- #1430-5204 submitted for testing 2/8/72
- #1436-94-1 submitted for testing 3/1/72
- #1453-3 submitted for testing 3/1/72

These formulations were tested for antimicrobial activity by the AOAC Use Dilution test, the AOAC Fungicidal test, and the AOAC Germicidal Detergent and Sanitizers test.

The test results are summarized as follows:

Over replicate tests with three (3) discrete preparations were observed:

- (1) Disinfection against *Staphylococcus aureus* #1430, *Salmonella* #1436, and *Escherichia coli* #1453 at 1 oz/2 gal aqueous dilution.
- (2) Fungicidal activity against the pathogenic fungus *Trichophyton mentagrophytes* #1430 at 1 oz/2 gal aqueous dilution.
- (3) Sanitizing activity against *Staphylococcus aureus* #1430 and *Escherichia coli* #1453 at 1 oz/5 gal aqueous dilution which provides approximately 200 ppm. Sanitizing activity is obtained in the presence of synthetic hard water of 600 ppm hardness (as CaCO₃).

FUNGICIDAL EFFICACY

Fungicidal by the AOAC Fungicidal Test

highest aqueous dilution of germicide based detergent/disinfectant which kills *Trichophyton mentagrophytes* #1430 in 10 but not in 5 minute contact period.

			kill (-)/no kill (+) after (min.)		
date	formulation	dilution	5	10	15
3/1	#1430-52-4 subsample(a)	1/64	-	-	-
		1/64	-	-	-
		1/128	-	-	-
		1/128	-	-	-
		1/128	-	-	-
		1/256	+	-	-
		1/256	-	-	-
		1/256	+	-	-
		1/256	+	-	-
		1/384	+	+	+
		1/384	+	+	+
		1/384	+	+	+
3/1	#1430-52-4 subsample(b)	1/64	-	-	-
		1/64	+	-	-
		1/128	-	-	-
		1/128	-	-	-
		1/128	-	-	-
		1/256	+	-	-
		1/256	-	-	-
		1/256	+	-	-
		1/256	-	-	-
		1/384	+	+	+
		1/384	+	+	+
		1/384	+	+	+
3/1	phenol resistance	1/45	+	-	-
		1/60	+	+	+
3/1	phenol resistance	1/45	+	-	-
		1/60	+	+	+

Procedure. The virus of 10⁶ infectious doses per test, 1 ml of virus was contact at room temperature to the titer of the controls. Saline was virus was determined by into each of four cell observed for cytopathic

Dilution of virus-germicide or virus-saline mixture.

10-1

10-2

10-3

10-4

10-5

10-6

10-7

10-8

+ = virus present

0 = Virus absent

T = Toxicity due to germicide determined.

Summary. Under the above conditions, the virus was killed by the germicide based detergent/disinfectant at a dilution of 1/384.

BACTERICIDAL EFFICACY

This formulation was prepared as separate and discrete laboratory preparations in the following instances:

- #1430-5204 submitted for testing 2/8/72
- #1436-94-1 submitted for testing 3/1/72
- #1453-3 submitted for testing 3/1/72

Each of these was tested at 1 oz/2 gallon aqueous dilution of germicide based detergent/disinfectant by the AOAC Use Dilution Test.

The test results are:

Three discrete preparations of germicide based detergent/disinfectant were prepared and identified as 1518-120, 1558-71, and 1560-90. Each of these was tested at 1 oz/2 gallon aqueous dilution by the AOAC Use Dilution test.

The test results are summarized as follows: Over replicate tests with each sample of germicide based detergent/disinfectant diluted at 1 oz/2 gal disinfection was observed against *Staphylococcus aureus* #1430, *Salmonella* #1436, and *Escherichia coli* #1453 at 1 oz/2 gal aqueous dilution. Sanitizing activity is obtained in the presence of synthetic hard water of 600 ppm hardness (as CaCO₃).

The test results are:

#negative subcultures/10 replicate stainless steel cylinders inoculated with *Staphylococcus aureus* and allowed to contact 1 oz/2 gal aqueous dilution of germicide based detergent/disinfectant at 100°C for 10 minutes.

Procedure. The virus of 10⁶ infectious doses per test, 1 ml of virus was contact at room temperature to the titer of the controls. Saline was virus was determined by into each of four cell observed for cytopathic

aqueous dilution which provides approximately 200 ppm. Sanitizing activity is obtained in the presence of synthetic hard water of 600 ppm. hardness (as CaCO_3).

T = Toxicity due to g. determined.

Summary. Under the a. *Alenolone* type 1.

BACTERICIDAL EFFICACY

This formulation was prepared as separate and discrete laboratory preparations in the following instances:

#1430-52-4 submitted for testing 2/8/72
#1436-94-1 submitted for testing 3/1/72
#1453-3 submitted for testing 3/1/72

Each of these was tested at 1 oz/2 gallon aqueous dilution of germicide-based detergent/disinfectant by the AOAC Use Dilution Test.

The test results are:

#negative subcultures/10 replicate stainless steel cylinders inoculated with *Staphylococcus aureus* ATCC 6009, *Escherichia coli* ATCC 8739, and *Salmonella typhimurium* ATCC 14028, and treated with 1 oz/2 gal aqueous dilution of germicide-based detergent/disinfectant for 10 minutes.

date	preparation	test organism	#negative/10 replicates	total
2/23	1430-52-4	<i>Staphylococcus aureus</i>	10/10, 10/10, 10/10	
2/29	1430-52-4	"	10/10, 10/10, 10/10	60/60
5/9	subsample(a) 60 day storage	"	10/10, 10/10, 10/10	30/30
5/9	subsample(b) 60 day storage	"	10/10, 10/10, 10/10	30/30
4/27	1436-94-1	"	10/10, 10/10, 10/10	
5/3	1436-94-1	"	10/10, 10/10, 10/10	60/60
5/16	1453-3	"	10/10, 10/10, 10/10	
5/19	1453-3	"	10/10, 10/10, 10/10	
2/23	1430-52-4	<i>Escherichia coli</i>	10/10, 10/10, 10/10	30/30
4/27	1436-94-1	"	10/10, 10/10, 10/10	30/30
5/16	1453-3	"	10/10, 10/10, 10/10	
2/29	1430-52-4	<i>Salmonella typhimurium</i>	10/10, 10/10, 10/10	30/30
5/3	1436-94-1	"	10/10, 10/10, 10/10	60/60
5/19	1453-3	"	10/10, 10/10, 10/10	

phenol resistance of test organisms

1. *Staphylococcus aureus* ATCC 6009 at 1/60
2. *Escherichia coli* ATCC 8739 at 1/60
3. *Salmonella typhimurium* ATCC 14028 at 1/60

Letheen Broth used as subculture medium

Three discrete preparations of germicide-based detergent/disinfectant were prepared and identified as 1518-120, 1558-71, and 1560-90. Each of these was tested at 1 oz/2 gallon aqueous dilution by the AOAC Use Dilution Test.

The test results are summarized as follows: 10-er replicate tests with each sample of germicide-based detergent/disinfectant diluted at 1 oz/2 gal disinfection was observed against *Staphylococcus aureus* ATCC 6009, *Escherichia coli* ATCC 8739, and *Salmonella typhimurium* ATCC 14028. The results are summarized in the following table.

The test results are:

#negative subcultures/10 replicate stainless steel cylinders inoculated with various bacteria and allowed to contact 1 oz/2 gal aqueous dilution of three different preparations of germicide-based detergent/disinfectant for 10 minutes prior to subculture into Letheen broth. The streptococcus was grown and tested in TSB broth.

date	preparation	test organism	#negative/10 replicates	total
12/9	1518-120	<i>Staphylococcus aureus</i>	10/10, 10/10, 10/10	
12/9	1560-90	"	10/10, 10/10, 10/10	
12/9	1560-90	"	10/10, 10/10, 10/10	
12/11	1518-120	"	10/10, 10/10, 10/10	60/60
12/11	1558-71	"	10/10, 10/10, 10/10	60/60
12/11	1560-90	"	10/10, 10/10, 10/10	60/60
12/9	1518-120	<i>Escherichia coli</i>	10/10, 10/10, 10/10	
12/10	1558-71	"	10/10, 10/10, 10/10	
12/10	1560-90	"	10/10, 10/10, 10/10	
12/11	1518-120	"	10/10, 10/10, 10/10	60/60
12/10	1558-71	"	10/10, 10/10, 10/10	60/60
12/10	1560-90	"	10/10, 10/10, 10/10	60/60
12/10	1518-120	<i>Salmonella typhimurium</i>	10/10, 10/10, 10/10	
12/10	1558-71	"	10/10, 10/10, 10/10	
12/12	1560-90	"	10/10, 10/10, 10/10	
12/12	1518-120	"	10/10, 10/10, 10/10	60/60
12/12	1558-71	"	10/10, 10/10, 10/10	60/60
12/12	1560-90	"	10/10, 10/10, 10/10	60/60
12/12	1518-120	<i>Streptococcus faecalis</i>	10/10, 10/10, 10/10	
12/13	1558-71	"	10/10, 10/10, 10/10	
12/17	1560-90	"	10/10, 10/10, 10/10	
12/17	1518-120	"	10/10, 10/10, 10/10	60/60
12/17	1558-71	"	10/10, 10/10, 10/10	60/60
12/17	1560-90	"	10/10, 10/10, 10/10	60/60
12/16	1518-120	<i>Staphylococcus aureus</i> ATCC 6009	10/10, 10/10, 10/10	
12/14	1558-71	"	10/10, 10/10, 10/10	
12/14	1560-90	"	10/10, 10/10, 10/10	
12/18	1518-120	"	10/10, 10/10, 10/10	60/60
12/18	1558-71	"	10/10, 10/10, 10/10	60/60
12/18	1560-90	"	10/10, 10/10, 10/10	60/60
12/18	1518-120	<i>Escherichia coli</i> ATCC 8739	10/10, 10/10, 10/10	
12/20	1558-71	"	10/10, 10/10, 10/10	
12/20	1560-90	"	10/10, 10/10, 10/10	
12/20	1518-120	"	10/10, 10/10, 10/10	60/60
12/20	1558-71	"	10/10, 10/10, 10/10	60/60
12/21	1560-90	"	10/10, 10/10, 10/10	60/60
12/19	1518-120	<i>Salmonella typhimurium</i>	10/10, 10/10, 10/10	
12/19	1558-71	"	10/10, 10/10, 10/10	
12/19	1560-90	"	10/10, 10/10, 10/10	
12/21	1518-120	"	10/10, 10/10, 10/10	60/60
12/21	1558-71	"	10/10, 10/10, 10/10	60/60
12/21	1560-90	"	10/10, 10/10, 10/10	60/60

Procedure. The virus embryos. The virus an infectivity tite fluid, as determine red blood cells. T the test dilution c perature, ten-fold the virus-germicide each of six ten day indicated by the he cells by the infect

Dilution of virus-germicide or virus-saline mixtures.

10⁻¹

10⁻²

10⁻³

10⁻⁴

10⁻⁵

10⁻⁶

10⁻⁷

10⁻⁸

+ = Virus present

0 = Virus absent

D = Eggs dead from

Summary. Under the *Alenolone* type 1.

VIRUCIDAL EFFICACY

cidal test

based detergent/disin-
fectant solution #47
od.

(-)/no kill (+) after (min.)

5	10	15
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
+	-	-
-	-	-
+	-	-
+	-	-
+	+	+
+	+	+
-	-	-
+	-	-
-	-	-
-	-	-
-	-	-
+	-	-
-	-	-
+	+	+
+	+	+
+	-	-
+	+	+

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 8 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 controls. 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.

Dilution of virus-germicide or virus-saline mixture.	Results	
	Controls Virus-Saline	Test Virus-Germicide
10-1	++++	T T T T
10-2	++++	T T T T
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 Adenovirus type 5.

HERPES SIMPLEX

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 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.

Dilution of virus-germicide or virus-saline mixture.	Results	
	Controls Virus-Saline	Test Virus-Germicide
10-1	++++	T T T T
10-2	++++	T T T T
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 inactivated the virus of Herpes Simplex under the above test conditions.

ergent/disinfectant were prepared
Each of these was tested at 1 oz/
test.

replicate tests with each sample of
1 oz/2 gal disinfection was observed
under #47, #48, #49, #50, #51, #52, #53, #54, #55, #56, #57, #58, #59, #60, #61, #62, #63, #64, #65, #66, #67, #68, #69, #70, #71, #72, #73, #74, #75, #76, #77, #78, #79, #80, #81, #82, #83, #84, #85, #86, #87, #88, #89, #90, #91, #92, #93, #94, #95, #96, #97, #98, #99, #100, #101, #102, #103, #104, #105, #106, #107, #108, #109, #110, #111, #112, #113, #114, #115, #116, #117, #118, #119, #120, #121, #122, #123, #124, #125, #126, #127, #128, #129, #130, #131, #132, #133, #134, #135, #136, #137, #138, #139, #140, #141, #142, #143, #144, #145, #146, #147, #148, #149, #150, #151, #152, #153, #154, #155, #156, #157, #158, #159, #160, #161, #162, #163, #164, #165, #166, #167, #168, #169, #170, #171, #172, #173, #174, #175, #176, #177, #178, #179, #180, #181, #182, #183, #184, #185, #186, #187, #188, #189, #190, #191, #192, #193, #194, #195, #196, #197, #198, #199, #200, #201, #202, #203, #204, #205, #206, #207, #208, #209, #210, #211, #212, #213, #214, #215, #216, #217, #218, #219, #220, 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+

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 influenza virus.

0 = Virus absent

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

Summary. The compound inactivated the virus of *Myxoma Virus* under the above test conditions.

INFLUENZA A₂

Procedure. The virus was grown in the allantoic sac of 10-day-old chick embryos. The virus was harvested after 40 hours incubation at 37°C and had an infectivity titer of 10⁶ 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 10⁻¹ 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.

Dilution of virus-germicide or virus-saline mixture.	Results	
	Control virus-saline	Test virus-germicide
10 ⁻¹	+++++	0
10 ⁻²	+++++	0
10 ⁻³	+++++	0
10 ⁻⁴	+++++	0
10 ⁻⁵	+++++	0
10 ⁻⁶	+++++	0
10 ⁻⁷	0	0
10 ⁻⁸	0	0

+

0 = Virus absent

0 = Eggs dead from non-specific infection

Summary. Under the above experimental conditions the test compound inactivated influenza virus.

VACCINIA VIRUS

Procedure. The virus was grown and assayed in rabbit kidney cultures. The titer in cell culture was 10⁷ 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.

Dilution of virus-germicide or virus-saline mixture.	Results	
	Controls virus-saline	Test Virus-germicide
10 ⁻¹	++++	0
10 ⁻²	++++	0
10 ⁻³	++++	0
10 ⁻⁴	++++	0
10 ⁻⁵	++++	0
10 ⁻⁶	++++	0
10 ⁻⁷	0	0
10 ⁻⁸	0	0

+

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 vaccinia virus.