

ACCEPTED

## 256 CLEANER DISINFECTANT

Cross-contamination is of major housekeeping concern not only in hospitals, but in schools, institutions, and industry. **QUATSYL 256** is formulated for this problem area. It both cleans and disinfects effectively and is virucidal when used as directed. Its hard surface disinfecting action will reduce the hazard of cross-contamination from environmental surfaces.

When used as directed, **QUATSYL 256** will deodorize toilet areas, behind and under sinks and counters, garbage cans and garbage storage areas, and other places where bacterial growth can cause malodors.

This product is economical to use because it is highly concentrated. It should be handled with care.

### DANGER:

Corrosive. Causes severe eye and skin damage. 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.

### 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 or gelatin solution; 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, as well as oxygen and measures to support breathing manually or mechanically may be needed. If persistent, convulsions may be controlled by the cautious intravenous injection of a short-acting barbiturate drug.

# 256

## CLEANER DISINFECTANT

### Active Ingredients

Octyl Decyl Dimethyl Ammonium Chloride	3.750%
Dioctyl Dimethyl Ammonium Chloride	1.875%
Didecyl Dimethyl Ammonium Chloride	1.875%
Alkyl (C <sub>14</sub> , 50%; C <sub>12</sub> , 40%; C <sub>16</sub> , 10%)	
Benzyl Dimethyl Ammonium Chloride	5.000%
Tetrasodium Ethylenediamine Tetraacetate	3.420%
Isopropyl Alcohol	3.000%
Ethyl Alcohol	1.000%
Inert Ingredients	80.080%
	<hr/>
	100.000%

EPA Registration No. 675-26-AA

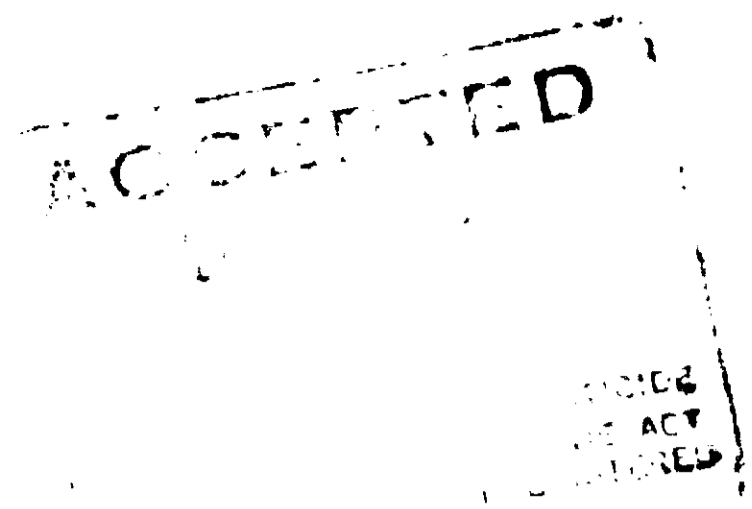
### NET CONTENTS 2½ U.S. GALLONS

**LEHN & FINK INDUSTRIAL PRODUCTS DIVISION  
OF STERLING DRUG INC.**

225 SUMMIT AVENUE, MONTVALE, NEW JERSEY 07645

**DANGER:** KEEP OUT OF REACH OF CHILDREN. SEE SIDE PANEL FOR FIRST AID STATEMENT AND OTHER PRECAUTIONS <sup>®</sup>Trademark

AB-3028



## 256 CLEANER DISINFECTANT

### USE DIRECTIONS

#### Add 1/2 ounce per gallon of water

Apply **QUATSYL 256** to walls, floors, and other hard surfaces such as tables, chairs, and bed frames with a cloth or mop. For heavily soiled areas, a preliminary cleaning may be required.

#### At 1/2 ounce per gallon use-level

**QUATSYL 256** is effective against *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Salmonella choleraesuis*, and *Trichophyton interdigitale*, the athlete's foot fungus. Germicidal performance against the first three organisms has been confirmed by the AOAC Use-Dilution test. Fungicidal performance against *T. interdigitale* was determined by the AOAC Fungicidal test.

The broad spectrum effectiveness of **QUATSYL 256** is shown by its germicidal action against the following additional organisms.

<i>Escherichia coli</i>	<i>Streptococcus faecalis</i>
<i>Klebsiella pneumoniae</i>	<i>Shigella dysenteriae</i>
<i>Aerobacter aerogenes</i> (enterobacter)	<i>Brevibacterium ammoniagenes</i>
<i>Salmonella schottmuelleri</i>	

#### AOAC Phenol Coefficients

<i>Staph. aureus</i> (ATCC No. 6538)	104.0
<i>Salmonella typhosa</i> (ATCC No. 6539)	40.6

#### † At 1/2 ounce per gallon use-level

**QUATSYL 256** is virucidal against Herpes simplex (a member of the virus family that causes infectious mononucleosis), Vaccinia (representative of the pox viruses), and Influenza A<sub>2</sub> (the Hong Kong flu virus), on inanimate environmental surfaces.

Rinse empty container with water before discarding.

# 256

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Octyl Decyl Dimethyl Ammonium Chloride	3.750%
Diocetyl Dimethyl Ammonium Chloride	1.875%
Didecyl Dimethyl Ammonium Chloride	1.875%
Alkyl (C <sub>14</sub> , 50%; C <sub>12</sub> , 40%; C <sub>16</sub> , 10%)	
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EPA Registration No. 675-26-AA

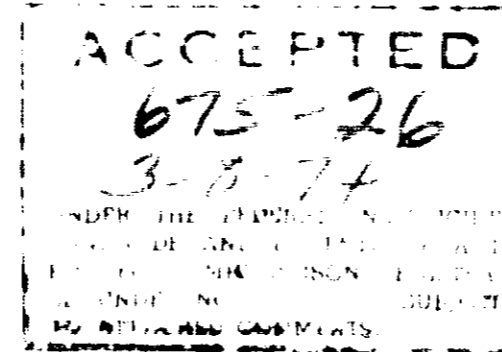
### NET CONTENTS 2 1/2 U.S. GALLONS

**LENN & FINK INDUSTRIAL PRODUCTS DIVISION  
OF STERLING DRUG INC.**

225 SUMMIT AVENUE, MONTVALE, NEW JERSEY 07645

**DANGER:** KEEP OUT OF REACH OF CHILDREN. SEE SIDE PANEL FOR FIRST AID STATEMENT AND OTHER PRECAUTIONS <sup>®</sup>Trademark

AB-8028

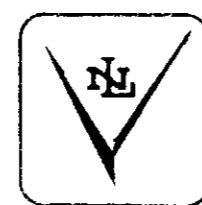


CLEANER  
DISINFECTANT

E.P.A. Registration No. 15-26-AA

A Super  
Concentrated  
Germicide Based  
on a Unique  
Blend of  
Quaternaries

**DISINFECTS - CLEANS - DEODORIZES**



Lehn & Fink Industrial Products Division  
of Sterling Drug Inc.

America's foremost manufacturer of disinfectants and deodorants for hospitals, hotels, homes, and industry.

Not only hospitals, but schools, offices, factories, and institutions of all types must constantly combat the threat of cross-contamination. QUATSYL 256 is formulated to reduce this problem. Add 1/2 ounce of QUATSYL 256 to a gallon of water and apply to environmental surfaces. When used as directed, it is germicidal against Staphylococcus aureus, Pseudomonas aeruginosa, Salmonella choleraesuis, Trichophyton interdigitale, and such viruses as Influenza A<sub>2</sub>, Herpes simplex, Adenovirus Type 2, and Vaccinia. QUATSYL 256 kills other pathogenic organisms on environmental surfaces, listed in Bacteriology section, page 3.

QUATSYL 256 may be used for:

**Hospitals**

- Housekeeping Services
- Nursing Services
- Operating Rooms (does not adversely affect conductive floors)
- Physical Therapy Departments
- Autopsy Facilities
- Dietary Departments

**Schools**

- Nursing Homes
- Food Service Facilities

QUATSYL 256 kills bacteria on surfaces which cause objectionable odors. These bacteria are often found under sinks and counters, in garbage cans and garbage storage areas, and in restrooms. QUATSYL 256 also neutralizes many odors of non-bacterial origin.

**Government Registration**  
 QUATSYL 256 Cleaner-Disinfectant  
 EPA Registration No. 675-26-AA

The use of antimicrobial agents is regulated by the Federal Government through the Federal Environmental Pesticide Control Act of 1973. This act amends the Federal Insecticide, Fungicide and Rodenticide Act of 1964. The new law requires that all "economic poisons" (disinfectants are included in this category) carry labels with adequate directions for recommended uses. It is illegal, under this statute, to ship these types of products in interstate and intrastate commerce unless the label has been reviewed and accepted by the Environmental Protection Agency. Only upon acceptance and registration by the EPA can the product be sold.

When disinfectants are recommended for hospital use, as is QUATSYL 256, the EPA requires that they demonstrate their effectiveness against Staphylococcus aureus and Salmonella choleraesuis. If a disinfectant does not kill Pseudomonas aeruginosa — QUATSYL does — a prominent disclaimer must appear on the label. QUATSYL 256 is also effective against many other pathogens, listed in the Bacteriology section.

QUATSYL 256 is also registered where required with state and local health authorities. It is also authorized for use in plants operating under the U.S. Department of Agriculture, Poultry Meat, Rabbit and Egg Products Inspection Programs, Category "F" (Sanitizers and Sanitizing Cleaners for All Surfaces).

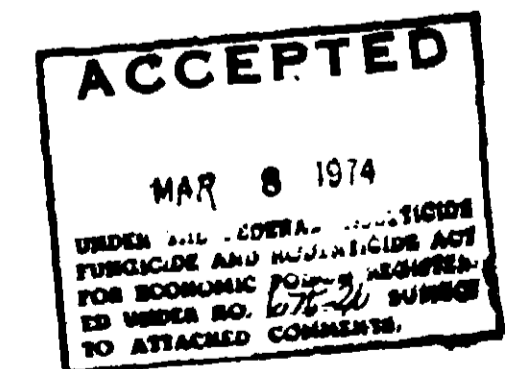
**Procedure:** Official — as described by the Official Methods of Analysis of the Association of Analytical Chemists: pages 61-63, 11th Edition, Washington, D.C. 1970. The dilution of QUATSYL 256 used for these tests was 1:256.

	Number of Carriers	
	Exposed	Showing Growth
Staphylococcus aureus	240	0
Salmonella choleraesuis	90	0
Pseudomonas aeruginosa	90	0
Enterobacter aerogenes	10	0
Klebsiella pneumoniae	10	0
Escherichia coli	10	0
Salmonella schottmuelleri	10	0
Streptococcus faecalis	10	0
Shigella dysenteriae	10	0
Brevibacterium ammoniagenes	10	0

**Procedure:** 0.9 ml. of QUATSYL 256 diluted 1:256 was mixed with 0.1 ml. of undiluted virus. The contact time was 10 minutes at room temperature. The titer of the treated virus was compared with that of untreated viral controls. This method was described by Stuart, L. S., Testing Sterilizers, Disinfectants, Sanitizers and Bacteriostatic Chemicals, Proceedings of the Chemical Specialties Manufacturers Association: pages 123-125, May 1969.

**Results:** All viruses treated with QUATSYL 256 were completely inactivated. Complete inactivation indicates at least three logs of virus were inactivated with no residual virus detected within limits allowed by the toxicity of the germicide.

Test Virus	Titer	Grown In
Herpes simplex	10 <sup>7</sup> TCID <sub>50</sub>	Rabbit kidney cells
Vaccinia	10 <sup>7</sup> TCID <sub>50</sub>	Rabbit kidney cells
Influenza A <sub>2</sub>	10 <sup>7</sup> TCID <sub>50</sub>	Chick embryo



**Procedure**—The following procedure is the official method of the U. S. Army, U. S. Navy, and U. S. Air Force for the determination of the germicidal activity of disinfectants. (1) Wash 100,000,000 tubercle bacilli in 100 ml. of distilled water.

This product is listed as "Approval of the Safety of Disinfectants, Food, Drugs, and Cosmetics" as required by the Department of Food and Drug of the United States.

QUATSYL is a highly germicidal tuberculocidal agent which is active against the tubercle bacillus. It is a strong oxidizing agent, from the nature of which it is effective in the rapid elimination of tubercle bacilli from surfaces. The American Public Health Association states:

"The tubercle bacillus is extremely resistant to heat, and is not killed by ordinary disinfectants. It is, however, killed by strong oxidizing agents, such as sodium hypochlorite, and by acids. The use of such agents is limited by their corrosive action on metal, and by their odor and staining effect."

"The tubercle bacillus particles are able to penetrate into the pores of the carpet particles. It is the ground floor of the expeller

**Germicidal Activity in 5, 10, 15 minutes  
Trichophyton interdigitale**

Test 1			Test 2		
5'	10'	15'	5'	10'	15'
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Oral (concentrate) LD 50 - White Rats - 2.3 ml./kg. of body weight.  
 Skin: Acute Dermatitis - Rabbits (abraded and intact skin). Transitory hyperemia. Transitory edema developed only in rabbits treated with 4 ml./kg. No systemic toxicity was observed.

Available evidence suggests that tubercle bacilli do not penetrate into linens, furniture, books, and floor, and do not constitute a significant health hazard. Most of them die quickly through the action of drying heat or sunlight. Inexpensive disinfectants are difficult to frequent and expensive to use, and furthermore, those intended for use in schools, homes, and nurseries are not very effective. They are too impotent to penetrate into the carpet. Hand washing with the germicidal water or potent disinfectants is a familiar and direct contact with infection, a pattern of infection change.

QUATSYL is a highly germicidal tuberculocidal agent which is active against the tubercle bacillus. It is a strong oxidizing agent, from the nature of which it is effective in the rapid elimination of tubercle bacilli from surfaces. The American Public Health Association states:

The recommended concentration of QUATSYL is 1/4 to 1/2 ounce per gallon of water. It is a solution of 1 ounce of QUATSYL 256 per gallon of water.

Use-Dilution Table		
Use-Dilution	1:512	1:256
Percent	0.2%	0.39%
ppm Active Ingredients	244	488
Ounces of QUATSYL per 1 gallon of water	1/4	1/2
Ounces of QUATSYL 256 per 3 gallons of water	3/4	1 1/2

1/2 ounce equals 1 tablespoon or 15cc.

**QUATSYL 256 may be applied by means of 1/2-ounce Pumps**

National Laboratory of Hygiene pump which factors into the top of the pump gallon pump. One ounce of the pump will dispense exactly 1/2 ounce of QUATSYL 256.

**Economix Proportioners**

It is also available in a form which is water based and is connected by a tube to a QUATSYL 256 container. When the pump is pressed and a button pushed, 1/2 ounce of QUATSYL 256 is dispensed. Economix proportioners are available in 1/2, 1, and 2 gallon sizes.

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**Wiping**—The tubercle bacillus is extremely resistant to heat, and is not killed by ordinary disinfectants. It is, however, killed by strong oxidizing agents, such as sodium hypochlorite, and by acids. The use of such agents is limited by their corrosive action on metal, and by their odor and staining effect.

**Double Basin Wiping**—A highly germicidal tuberculocidal agent which is active against the tubercle bacillus. It is a strong oxidizing agent, from the nature of which it is effective in the rapid elimination of tubercle bacilli from surfaces. The American Public Health Association states:

**Mopping Procedure**—The tubercle bacillus is extremely resistant to heat, and is not killed by ordinary disinfectants. It is, however, killed by strong oxidizing agents, such as sodium hypochlorite, and by acids. The use of such agents is limited by their corrosive action on metal, and by their odor and staining effect.

**Flooding and Wet Vacuum Pick-up** — Quatsyl 256 is used for the disinfection of floors in operating rooms, delivery rooms, recovery rooms, and other rooms where floors are frequently soiled. Quatsyl 256 is diluted with water in the proportion of 1:100. The solution is applied to the floor with a mop or brush. The floor is then vacuumed up with a wet vacuum. The floor is then mopped with a clean mop.

**Spray Bottle Method** — Quatsyl 256 is used for the disinfection of floors in operating rooms, delivery rooms, recovery rooms, and other rooms where floors are frequently soiled. Quatsyl 256 is diluted with water in the proportion of 1:100. The solution is applied to the floor with a spray bottle. The floor is then mopped with a clean mop.

**Spray-Mop Technique** — Quatsyl 256 is used for the disinfection of floors in operating rooms, delivery rooms, recovery rooms, and other rooms where floors are frequently soiled. Quatsyl 256 is diluted with water in the proportion of 1:100. The solution is applied to the floor with a spray mop. The floor is then mopped with a clean mop.

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**Operating, Delivery and Recovery Rooms** — All rooms where patients are delivered, operated, and recovered should be disinfected with Quatsyl 256.

**Floors** — Quatsyl 256 is used for the disinfection of floors in operating rooms, delivery rooms, recovery rooms, and other rooms where floors are frequently soiled. Quatsyl 256 is diluted with water in the proportion of 1:100. The solution is applied to the floor with a mop or brush. The floor is then vacuumed up with a wet vacuum. The floor is then mopped with a clean mop.

**Equipment and Surfaces** — Spray and wipe with a 1% solution of Quatsyl 256. Areas that are hard to reach such as wheels, casters, and the undersides of tables and shelves should be reached by the spray method.

**Surgical Instruments** — After removal of all other fluids and retro-suspensions, instruments should be immersed in a 1% solution of Quatsyl 256.

**Heat-Sensitive Instruments** — Soak in any of the above listed solutions for 30 minutes. The solution should be changed after 15 seconds. The solution should be changed after 15 seconds. The solution should be changed after 15 seconds.

**Isolation Rooms** — Quatsyl 256 is used for the disinfection of floors in operating rooms, delivery rooms, recovery rooms, and other rooms where floors are frequently soiled. Quatsyl 256 is diluted with water in the proportion of 1:100. The solution is applied to the floor with a spray mop. The floor is then mopped with a clean mop.

**Nurseries** — Quatsyl 256 is used for the disinfection of floors in operating rooms, delivery rooms, recovery rooms, and other rooms where floors are frequently soiled. Quatsyl 256 is diluted with water in the proportion of 1:100. The solution is applied to the floor with a spray mop. The floor is then mopped with a clean mop.

**Housekeeping** — Quatsyl 256 is used for the disinfection of floors in operating rooms, delivery rooms, recovery rooms, and other rooms where floors are frequently soiled. Quatsyl 256 is diluted with water in the proportion of 1:100. The solution is applied to the floor with a spray mop. The floor is then mopped with a clean mop.

**Food Service** — Quatsyl 256 is used for the disinfection of floors in operating rooms, delivery rooms, recovery rooms, and other rooms where floors are frequently soiled. Quatsyl 256 is diluted with water in the proportion of 1:100. The solution is applied to the floor with a spray mop. The floor is then mopped with a clean mop.

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# Quatsyl\* 256

Disinfects — Cleans — Deodorizes

E. I. du Pont de Nemours and Company, Inc.

## Available in:

- 1 gallon plastic bottles (6 to a case)
- 2 1/2 gallon bottles (2 to a case)
- 55 gallon drum

## ACTIVE INGREDIENTS:

Octyl Decyl Dimethyl Ammonium Chloride	4.750%
Dioctyl Dimethyl Ammonium Chloride	1.875%
Didecyl Dimethyl Ammonium Chloride	1.875%
Alkyl (C <sub>12</sub> , 50%; C <sub>14</sub> , 40%; C <sub>16</sub> , 10%)	
Benzyl Dimethyl Ammonium Chloride	5.000%
Tetrasodium Ethylenediamine Tetraacetate	3.420%
isopropyl Alcohol	3.000%
Ethyl Alcohol	1.000%

## INERT INGREDIENTS

80.080%  
100.000%

Read directions and precautionary statements on label.

Let us help you with any disinfection problem you have. Technical assistance is available to your Committee on Cross-Infection or to your individual department heads on request.



**NATIONAL LABORATORIES**  
Lehn & Fink Industrial Products Division  
of Sterling Drug Inc.

225 Summit Avenue, Montvale, New Jersey 07645

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**Flooding and Wet Vacuum Pick-up** — This method is recommended for the disinfection of floors in operating, delivery and recovery rooms, isolation rooms, nurseries, and housekeeping areas. The solution of QUATSYL 256 should be applied to the floor and allowed to remain for 10 minutes. The floor should then be thoroughly mopped with a clean mop. The mop should be rinsed and wrung out in a bucket of QUATSYL 256 solution.

**Spray Bottle Method** — This method is recommended for the disinfection of floors in operating, delivery and recovery rooms, isolation rooms, nurseries, and housekeeping areas. The solution of QUATSYL 256 should be applied to the floor with a spray bottle. The floor should be allowed to remain for 10 minutes. The floor should then be thoroughly mopped with a clean mop.

**Spray-Mop Technique** — A pump-up stainless steel sprayer or mister should be used to apply the QUATSYL 256 solution to the floor. The solution should be removed from the floor with a clean mop, rinsing and wringing the mop out in a bucket of QUATSYL 256 solution.

The following factors should be considered in the selection of the most suitable disinfection method:

1. The type of floor surface to be disinfected. The floor surface should be smooth and non-porous. The floor surface should be free of dirt and debris. The floor surface should be dry.

2. The type of disinfection method to be used. The disinfection method should be suitable for the floor surface. The disinfection method should be suitable for the area to be disinfected. The disinfection method should be suitable for the personnel involved.

3. The type of disinfectant to be used. The disinfectant should be suitable for the floor surface. The disinfectant should be suitable for the area to be disinfected. The disinfectant should be suitable for the personnel involved.

**Operating, Delivery and Recovery Rooms** — All floors in these rooms should be regularly treated with a 1:256 solution of QUATSYL 256.

**Floors** — Floors in these rooms should be treated with a 1:256 solution of QUATSYL 256. If this is not possible, the floor should be mopped with a spray-mop or a mop and alternative. QUATSYL 256 should not be used on conductive floors. Resins are not required.

**Equipment and Surfaces** — Spray and wipe with a 1:256 solution of QUATSYL 256. Areas which are hard to reach such as wheels, casters and the underside of tables and shelves are best disinfected by the spray method.

**Surgical Instruments** — After removal of all adhering blood and serous exudates, instruments should be immersed in a 1:256 solution of QUATSYL 256.

**Heat-Sensitive Instruments** — Since many of these cannot be sterilized in an autoclave, they should be cold-disinfected by soaking for 1 hour in a 1:256 solution of QUATSYL 256.

**Isolation Rooms** — Surfaces in these rooms should be treated with a 1:256 solution of QUATSYL 256. The disinfection should be performed at least once daily.

**Nurseries** — QUATSYL 256 should be used to disinfect the nursery, such as floors, beds, cribs, and other equipment.

**Housekeeping** — Where the flooding/wet vacuum pick-up method is not convenient for disinfecting and cleaning floors, it is recommended that the double-pail mopping method be used. Surfaces other than floors should be cleaned and disinfected using the double-pail or spray-bottle/wipe method.

For spot cleaning and disinfecting of such objects as bedspreads, doorknobs and bedroom fixtures, use the spray-bottle technique.

**Food Service** — QUATSYL 256 is an effective sanitizer for food service use. A 1:512 solution (244 ppm) should be used for sanitizing food contact surfaces. After application to food contact surfaces, rinse off with potable water. Non-food contact surfaces can also be cleaned and disinfected with a 1:256 solution of QUATSYL 256. Resins are not necessary.

QUATSYL 256 is listed in the Index of Appendix F of the Grade A Pasteurized Milk Ordinance (1963) and in the Index of the U.S. Public Health Service's new code up to 100 ppm and more concentrated (1:100) when tested by the APHA (American Public Health Association) Method.